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Art. I.—WHAT IS FAIR AND EQUAL RECIPROCITY?

RECIPROCAL TRADE WITH THE BRITISH NORTH AMERICAN COLONIES.—REPORT OF THE COMMITTEE ON COMMERCE OF THE UNITED STATES, FEBRUARY 1, 1853.*

WE do not intend a minute examination of the various facts discussed in Mr. Seymour's Report. It is enough that it recommends "the establishing our commercial intercourse with the colonies upon a basis of a fair and liberal reciprocity, and with principles congenial with the enlarged commercial spirit of the present age."

That being admitted, it is only necessary to consider what will constitute a fair and liberal reciprocity, and more especially what will be most consistent with the principles congenial with the enlarged commercial spirit of the present age? Nothing can be more inconsistent with this enlarged commercial spirit, than the restrictive system, or the doctrine of protection, as inculcated by what has been most improperly called the American System. According to our views, the only legitimate objects of protection by government are the repression of crimes, and the maintenance of order, justice, and security among individuals. Not only the person, but the property of the person must also have the benefit of this order, justice, and security. The restrictive system, which, under the pretence of government protection, confers special benefits on one class at the cost of others, owes its origin mainly to the navigation laws of Cromwell and Charles II. Every one knows that these laws, in the first instance, grew out of national animosity towards Holland. The murder of Dr. Dorislaus, at the Hague, and the insult offered to St. John, Cromwell's ambassador, by the Dutch mob, while it excited the resentment and pride of the Protector, called forth the professional gall of that distin-

* The readers of the Review who may not have adopted the views of our correspondent in regard to the laws of trade and industry, will bear in mind that our pages are ever open to a fair and free discussion of this as well as of all other similar questions.

guished lawyer, who found no difficulty, in the Rump Parliament, in carrying through a bill, which only conformed to the then existing national jealousy, on account of the superiority and cheapness of the Dutch vessels over those of England. At that time the Dutch were the common carriers for the greater part of British commerce, because their freights were lower, and they caught the greatest quantity of fish, even on the British coasts, and because they were more industrious and more skilful. (2d vol. *Anderson on Com.*, 415.) The novelty of the measure, "and the ignorance of some traders," was even then the cause of complaints. Merchants were even then stupid enough to feel that it was an injury to them, and gave for reason what would appear pretty weighty in these days. They complained that, "although their own people had not shipping enough to import from all parts whatever they wanted, they were nevertheless, by this law, debarred receiving due supplies of merchandise from other nations, who only could, and till then did, import them."

The effect of this law, though it gratified national animosity, and may have injured the Dutch, was at the same time very detrimental to the people of Great Britain, for they were thereby debarred from receiving their usual and necessary supplies of food and other commodities, to which their own vessels were inadequate. To exclude competition from any business, must of course diminish supplies and raise prices; and the people of this "enlightened age" are pretty well satisfied that neither is to their advantage. There are not many to be found, not disciples of Dr. Alison or Mr. D'Israeli, who would concur in the opinion expressed by the Duke of Wellington, on the 14th of March, 1814, (*Maxims*, 416,) "that the repeal of the corn laws would raise the price of corn."

Never did so unwise a law receive such applause and commendation from the time of its enactment up to our "enlightened age." The delusion has at last been removed, and "mutual impediments" are no longer considered as national blessings.

It is admitted by the best British writers, that even before the late repeal of the British Navigation Laws, their unprotected trade employed by far the greater portion of their shipping, and increased at double the rate of the protected; and that trade which employed the most ships of course reared the greatest number of seamen. (*Navigation Laws*, 49.) Since the repeal, their tonnage has increased, and not diminished, as Dr. Alison and the Tories so strenuously contended would be the case.

Such, in every instance, has been the result of Free Trade, in relation to foreign commerce. Let us see if the same principles will not apply to the coasting trade?

By the coasting trade, is meant "the trade or intercourse

carried on by sea between two or more ports or places of the same country."

"The coasting trade of the United States of America includes not only the carrying trade of the products or manufactures of one State to another, as the cotton of the South to the North, and the manufactures of the North and the production of the fisheries to the South; but it comprises also the carrying of foreign produce and manufactures from the great depôts of New-York, Boston, Philadelphia, Charleston and New-Orleans, (see the trade of these ports,) to minor ports of distribution. In short, it is the channel by which our vast productions, and imports received in exchange for them, are distributed between certain great points and every other part of our extensive coast or internal seas. Most countries, in imitation, or by way of retaliation, have, like Great Britain, excluded foreigners from all participation in the coasting trade. Unfortunately, bad examples are always more readily followed than good ones. So long as capitalists found her measures suited to their interest, they could not be too loud in commendation of the wisdom of England; but now, when she recommends justice to all, her wisdom is but folly. The policy of excluding foreigners from the coasting trade, commenced in England in the reign of Elizabeth, but was perfected by the acts of navigation of 1651 and 1660. Numerous minor regulations have since been enacted."—*McCulloch's Com. Dic.*

For some years after the attainment of their independence, the United States endeavored to induce Great Britain to repeal her navigation laws, and to adopt a more liberal course of commerce. National hostility and wounded pride no doubt again influenced England to retain measures really injurious to herself and to others. The United States, by way of retaliation, in 1787 adopted, word for word, the British Navigation Laws, and excluded, likewise, all foreigners from their coasting trade, as well as all foreign-built ships or vessels not owned and manned by three-fourths Americans.

Thus, it will be observed, that all these measures either grew out of jealousy, or were adopted by way of retaliation.

Lately, upon the repeal of the British Navigation Laws so far as concerned foreign commerce, it was said, at the time, that the British minister had made some intimation to our government of a readiness to abolish all restrictions on their coasting trade, and to throw it open to national competition. But Mr. Webster, the then Secretary of State,—who was always a much more faithful representative of the capitalists of New-England than of the people of the United States,—took the first opportunity to denounce the proposition.

The question is not a very apparent one, and has not as yet

excited the attention of the American people which it deserves. It is very important, and deserves the serious consideration, and demands the wisest action, on the part of the democratic party. The whigs, we must say, have always supported the interest of capitalists as superior to those of the people. By whatever name the party has been known, it has ever pursued the same course:—as witness the American System, the United States Bank, and the unbounded patronage they have been always ready to lend to all the great corporations and monopolies, which capitalists and projectors, in their eager pursuit of gain, are so prompt to thrust before Congress.

The monopoly of the coasting trade is but a remnant of that restrictive system which has now been condemned by the wisest men, and by two of the freest and most enlightened nations on the earth. It is but a part of Mr. Clay's American System, which is a British Tory measure as old as the days of Charles the Second.

What is there peculiar to the coasting trade, that we should give a monopoly to vessels and persons engaged in it, and deny it to those who carry on the foreign and inland trade of the country? That it is the great nursery of seamen, and therefore necessary to national defence. But we have seen that the unprotected trade of Great Britain has proved a more fruitful nursery for seamen than the protected, including their coasting trade. And so satisfied is that people, who are apt to look to their own interest, of the folly of the measure, that they are now willing to abolish theirs, while they wish us to do the same.

To whom would it be most beneficial? Would it injure Great Britain? Their most intelligent and experienced seamen think otherwise.

Sir James Stirling, a post-captain, who had paid particular attention to the subject, upon his examination before a committee of Parliament, said:—"I think there is good reason to conclude that the foreigner could not by any possibility compete with English seamen, or English ships, in that particular branch of trade." The men, he remarked, entered into it early in life, and acquired the early habit. It required local knowledge; so much so, that even English seamen brought up in other lines, were hardly able to earn their salt in it. It required great hardihood and energy to navigate in long, dark nights, on the English coast. And he farther stated, that Mr. Straker, a person very much engaged in that business, gave in evidence, that "the coasting trade is one of those difficult trades to manage; that there are very few foreigners that could manage it; they could not navigate the coast: we understand that better than they do, and that they cannot deprive us of."—*Ricardo*, 51.

These very objections, it would seem, apply in as great a degree to the navigation by foreigners on our coast, which is much more extensive, and less known than that of Great Britain.

"It would in any case," said Mr. Young, in his examination, "be purely visionary for the British ship-owner to expect to man his ships with foreign sailors; it being opposed to all the principles of human nature, as well as experience, to imagine that men, except under the pressure of absolute necessity, will, in any considerable number, abandon their homes and country to enter into employment in another country."

All this is very true so far as Europe is concerned; but herein exists the great difference between Great Britain and the United States. Foreigners, it is true, would not be likely to enter into the coasting trade of either of these nations, to any great extent, though we see no difficulty in their navigating between their more important commercial ports; as between London and Newcastle, or Edinburgh, Liverpool and Glasgow, or between Liverpool and Dublin, Cork or Belfast. Surely, Yankee seamanship would find no difficulties in that navigation. It might have seemed a strange idea to Mr. Young, a few years since, to suppose that foreigners should, in great numbers, abandon their homes and country and go into the coasting trade of another country; but that circumstance, at present, as far as America is concerned, would seem a mere matter of course, and it would be no surprise to us if they came, ships and all. If we are to give credit to the opinion of the London Times, the next rush of capital will be to the United States; and if we are to believe the statement lately taken from an English paper, English sailors, dissatisfied with their present condition, have already, at some meeting, threatened to take their departure for America, and had raised the star-spangled banner in the place of the union-jack. Already the tide of population is flowing from Great Britain to America by millions; and the real advantage we have over that country is, that if we throw open our coasting trade, we will not only bring her seamen here, but also her ships and her capital. It is but fulfilling the tendency of the age. Such is her and our destiny. The gulf stream is not more steady in its course than this stream of emigration; and though it may not continue as great a number of years, yet, until it accomplishes its end, and places the rewards of labor and the means of subsistence on the same level in America as in the Old World, that current will run, in spite of all the restrictions, all the protection and regulations which law-givers can contrive. A foreigner may come here and settle upon our public lands, and acquire a home won by the blood and money of the American people. He may share in the gold mines even with the sons of

China; may take stock in banks, rail-roads, insurance companies, hold commissions in our army, or do whatever a citizen may do, except exercising the right of voting and legislating, and the law does not object. He may follow any trade by land, undelayed by apprenticeship; may run boats, coaches, wagons —in short, exercise the rights of common carriers in every phase, and no one complains—the law does not object. Then why exclude him from carrying from port to port by sea and not by land? He may, as any citizen may, build a rail-road from New-York to New-Orleans, and carry all the cotton and sugar of the latter place to the former, and bring back all its supplies of goods, and the law of protection does not interpose. The rights of our mechanics, laborers and capitalists, are not supposed to be impaired. Then why should the interest of ship-owners be the object of so much more solicitude and monopoly than the interests of all other classes of our fellow-citizens? If foreigners are allowed to compete with us on land, why not by sea? If on the high seas, why not on the coast? If they may compete on any of the rivers of a State, why not on any waters? Whatever is individually profitable, is profitable to the nation, which is the mere aggregate of individuals. Does not every one find it to his advantage to employ the cheapest and best means of transportation? We all prefer to judge and choose for ourselves. Suppose A. has a cargo at New-Orleans which he wishes to transport to New-York or California, and that there are not American vessels present, ready and willing to take the load at a reasonable freight, but that the harbor abounds with British or Baltic vessels willing and ready to do the business on lower and otherwise more advantageous terms,—would A. feel that he was fairly dealt by, if he was prohibited by the government from employing such vessels, to favor B., who may be residing at his ease in New-York or New-England, and to patronize his ships that may be fully employed elsewhere, or may choose to demand higher freights than others are willing to take? Is it not apparent that such impediments increase the costs of the shipper, while they raise prices to the consumer? The proposition, when thus stated, seems monstrous, and yet such is literally the case.

"The Navigation Law," says Mr. Holt, a well-known British writer on shipping and navigation laws, "regards this trade to belong as peculiarly to British subjects, as the internal navigation of the country itself. Upon this principle the legislature confines it entirely to British ships, seamen, and capital."—(1 vol. 192.)

This may be English, but it is not our policy. Our policy is to draw to America all the capital and all the men we can from the overstocked nations of Europe. Can it be doubted

but that, if foreigners were allowed to come here with their vessels and seamen, to participate in the profits of our coasting trade, that they would find it to their advantage to follow soon and take up their residence amongst us, and become citizens of the great republic? Capital, yielding higher profits here than in the old country, would come along with the trade, and seize the advantage of new investments; and thus the capital, tonnage, and the population and marine of this country, would all be increased by this wise and liberal policy.

Under these circumstances, we cannot conceive why a monopoly in the carrying trade should be granted where it is conducted from place to place by sea, and not so where it is conducted by land, or by inland river, or canal navigation.

Mr. Ricardo states somewhere, that even in England, no law prohibits the carrying of passengers from port to port by steamers, though prohibited by sail.

So far from protection supplying and maintaining the great nurseries for seamen, Mr. Ricardo states a fact, often acknowledged by British writers, that the independence of the American states, so far from injuring the commerce of Great Britain, "gave the impulse of competition to their shipping, and forced them into greatness on the *free* seas." Whatever increases commerce increases shipping, and whatever increases shipping increases seamen, and competition, and not protection, furnishes to each nation the greatest nursery for her seamen, and is more important to national defence than all the restrictions in the statute books. So far, then, from fearing competition in our coasting trade, it is our policy to invite it.

Why should we fear the competition of England or of her colonies in the fishing or in the coasting trade, when, living in an untaxed country, we can build ships with equal skill and less expense, having cheaper timber and cheaper victuals? If we labor under any disadvantage it is in the cost of iron, and if in that matter we are taxed, it is to favor the protectionists; an evil which should be remedied, so far as the law is concerned.

There is not a country having stricter navigation laws than France, and what are their fruits? Her protective system is more complete and thorough than that of any other nation of Europe, but her industrial progress is by no means to be compared to others much less protected. Her commerce and her agriculture are at the lowest ebb. The same may be said of Spain and Mexico.

The whale fisheries, unprotected by drawbacks, bounties, or monopolies, afford a much more valuable nursery for seamen than our mackerel and cod fisheries, or than the coasting trade, which are protected by bounties and monopolies, and at the same time yield greater profits. Not long since we saw that the

whalers found it to their advantage to send home their oil from Bermuda by British vessels. If any one finds it to his advantage, whaler or not, to use British vessels for the carriage of his goods, why should he not be allowed to employ them? It is competition, and not protection, as the liberality and intelligence of the present age teaches us, which leads to success in all business; and unless this competition is left free, the equality and justice of a free country is violated, legislation is perverted, and that general protection which is due alike to every one, is distorted into special favoritism. Such legislation may be consistent with the principles of the Tories in England, but not with those professed by the democrats of America. To open the coasting trade, then, of the United States, is not only to render justice to the great mass of the people, which constitute its producers and consumers, but in truth, to render service, in the end, to our protected ship-owners themselves, by exciting that wholesome competition so essential to progress and excellence in every employment; and would be only placing all of our capitalists and seamen on the same footing of equality and justice.

We have shown that there is a peculiar tendency to emigration to this country, and that it is of great importance to us that this tendency should not be checked; but rather that all unfair obstacles to it should be removed, as it enhances our power to accomplish great objects in our wondrous progress. Would it not be folly in us to obstruct this avenue to prosperity merely in order to maintain a monopoly to a few ship-owners, whose greatest claim to favor is that they have enjoyed it for nearly seventy years?

The English may now suppose that foreigners cannot compete with them in their coasting trade, but they did not think so when they adopted their navigation laws, or they would have considered it a useless precaution. England may now be right to a certain extent, in believing that foreigners cannot compete with her own subjects in their coasting trade; and the reason is obvious, because she is not now near to any nation whose marine skill and enterprise is at all comparable with her own; but the time was when Holland not only imported into England, "from all parts," whatever was wanted, but actually monopolized the fishing on the coast of England, as well as their coasting trade, and British ship-owners complained that their mariners, for want of employment at home, went into the Dutch service. Similar causes must produce similar effects. It must be remembered, too, with regard to ourselves and England, that we speak the same language, and are accustomed to the same laws; as it is admitted, here at least, that our vessels are of superior model and effectiveness to those of England, and their cost less, if we cannot compete with her subjects in their

coasting trade, we could at least enlarge our market for ship-building, by supplying them cheaper than they can build. We find it stated, upon the authority of the *Newburyport Herald*, that while the cost of the best ships in England is $97 per ton, in the United States it is only $65. (2d *vol. De Bow's Ind. Res.*, 186.) It has been shown, then, that the benefits of fair and equal reciprocity is "decided and important" to the American ship-owner. Under this system, our ship-builders have an advantage, (it has been properly said,) which fully warrants the conclusion, that the British ship-building interest, notwithstanding its present flattering condition, will ultimately, and speedily, succumb to the growing energies and capital of America.

At this time, too, there is an extraordinary demand for ships in consequence of the opening of the California trade. It is stated, on the authority of the *Dry Goods Reporter*, (2 *De Bow's Resources*, 186,) that during the past year California drew off 700 vessels from the Atlantic, amounting to 240,000 tons; and the demands for the growing commerce of the Pacific must increase rather than diminish that drain. Under such circumstances our ship-builders cannot complain of the want of a market, nor our sailors of the want of a nursery. And possessing such an abundant and profitable market, it would seem unblushing assurance to ask protection of the government, at the expense of impeding the progress of the whole nation.

Suppose, however, that it be true that no foreigner can compete either with Great Britain or America in their coasting trade, then it follows that the monopoly, while it is in violation of equality, is of no use whatever to the ship-owners of either country, and, as a useless precaution, should be removed for decency sake. From official returns, it appears that not only the foreign but the home tonnage is rapidly increasing in both countries. It proves that the demand of the commerce of each is more than can be supplied by the tonnage of either country. Australia has proved to Great Britain what California has to the United States. It has created a new and very considerable demand for vessels. It is to the interest, then, of both nations, that every facility should be offered rather than denied to the demands of their commerce.

The mouths of the iron-masters, of late years, so clamorous for further protection, have lately been cruelly stopped by the great demand for, and consequent rise in the price of iron. After seventy years' enjoyment of the monopoly of the coasting trade and fisheries, and the great demand for ships, we think the ship-owner, too, should now be estopped from asking further protection.

By the act of Congress of 1812, it is authorized that steamboats owned wholly or in part by an alien, may be enrolled

and licensed for the coasting trade, provided the agent is a resident of the United States. Now, the steam tonnage engaged in the coasting trade already amounts to more than half a million. If the policy is applicable to steam-vessels, why not to sailing vessels? The mind of a person must be very much prejudiced or obscured by interest if he cannot see that it is more to the interest of the United States to encourage the transfer of capital to our country, than to drive it off; and it seems equally plain that commerce should be opened to competition, rather than obstructed for the benefit of some particular interest.—Can it be more injurious or dangerous to the country for a foreigner to vest his capital in a vessel engaged in the coasting trade, than in a rail-road, canal, or insurance company? The spirit of monopoly makes us often see things in strange lights. Voltaire, in one of his comedies, makes a monopolist say:—"*Les affaires publiques me désespèrent; toutes les denrées sont a bon marché; ouvrage dans une abondance pernicieuse. Je suis perdu, je suis ruiné.*" "The state of public affairs drives me mad; all provisions for man or beast have become cheap; the world is flooded with pernicious plenty. I am ruined and undone."

This brings us to the question: What sort of reciprocity shall we have? We answer, that sort of reciprocity which has been asked for by General Washington, Mr. Clay, General Jackson, Mr. Van Buren, and by Mr. M'Lane; to wit, "*perfect equality and reciprocity*"—equality to all concerned, and reciprocity in all commodities. We protest against any special legislation or contracting by treaty, for the benefit of contiguous localities. Its being made a sectional reciprocity, to suit the peculiar interest of a few States adjoining the British Provinces, should certainly not meet with the approbation of the nation, and has already been very properly objected to, by a writer in the preceding June number of this journal. It should apply to all the British American colonies, at least, and comprehend all commodities of trade. We protest against all "leading articles," as having no other end than the protection of certain interests at the expense of all others. Our agricultural and commercial interests must be as closely and as fairly looked to as that of the manufacturing and ship-building. The West and South are as much concerned as the North and East—Ohio as much as New-York or New-England. Already we see that Ohio and other States, bordering on the Mississippi and its waters, are about to become the great workshops for building vessels to supply the market of the world.

"In consequence of gradual concessions," says Mr. Seymour, in his report, "American vessels are now admitted to registry in British colonial ports; can sail from one colonial port to any other colonial port, in any other colony, or to Great Britain, with colo-

nial or other produce; and can enter all colonial ports, and load and discharge their cargoes, wherever there is a custom-house officer; subject, however, to the restriction, that they shall sail from one port to another in the same colony only in ballast." This restriction is an absurd one, and should be removed and not imitated. These concessions, the committee acknowledge, have been of great advantage to our shipping, which thereby often find employment, which otherwise would be wanting; and "our larger and more costly ships have made remunerating freights by the transportation of lumber from the colonies to Great Britain." Why not, in return, allow the vessels of each nation, "during periods of stagnation" or of high demand, to take cargoes from any one of their ports to another? Why object to a British vessel's taking a load from New-York to San Francisco, if she can do it cheaper than an American vessel, or at a time when American vessels, being otherwise and better engaged, are not at hand to do it for the shipper, or cannot do it on as good terms? To refuse permission under such circumstances is, precisely, acting the part of the dog in the manger, and is much more consistent with the pride and ambition of Oliver Cromwell, and the reckless tyranny of Charles II., than with the character of our boasted enlightenment.

"The extension of intercourse," says the report, "and the increase of trade caused by the legislation of 1843, had shown the colonists the advantages of our market, and the facilities we possessed of supplying all the necessaries of life which were not furnished by their own productions. They were now ready to propose to us an arrangement of commercial intercourse, founded upon those principles of perfect equality and reciprocity, which the United States had always professed to be the policy of her commercial intercourse with foreign nations."

But the offer through the Canada legislature has been only to provide "for reciprocal trade in *natural products*." There is a squinting towards the protection of certain interests only, in this proposition, and it is not consistent with the "principles congenial with the enlarged commercial spirit of the age."

We repeat, reciprocity, to be equal and just, even to ourselves, should comprehend all commodities. On the part of the United States, our duties should conform as nearly as possible to those of the provinces, and not double the amount, as they do at present—ours averaging 23½ per cent., and theirs but 12½. (Report, p. 6.) The committee has very properly said, that this is "one of the most important questions affecting American commerce;" and "the population upon our northern and eastern frontiers, and in our great cities," must not be considered as the only part of our people concerned in the settlement of the question. The West and South are equally concerned, and must

not have their interests neglected. We must admit from the provinces their lumber, their coal, gypsum, fish, breadstuffs, beef, skins, cod oil, ashes, grain, animals, or any other article of trade; and they must take our tea, coffee, wines, cigars, dried fruits, hides, sugars, cotton, grain, tobacco, bacon, pork, or any other commodities that we may find profitable to exchange with them. We must place the vessels and seamen of each nation on an equality in the fisheries, in the coasting trade, and wherever mutual navigation can extend. This is the only union that we believe can ever contribute to the benefit or comfort of either party. The right to navigate each other's rivers is no injury, but a mutual benefit. It is a great advantage to any country to make a highway of its rivers, for the transportation of passengers or of commercial commodities. It is of Chinese policy to oppose it. No danger can arise from it in time of peace, and in time of war your enemies will navigate your rivers, if they please, and in spite of you, if you have not the strength to keep them out. The power to resist or repel them in time of war is not lessened by reaping the profits derived from such navigation in time of peace. Besides, such intercourse becomes a mutual guaranty for peace, and renders it more difficult and unpopular for nations to go to war with each other. Amicable and fair adjustments, under such circumstances, are more readily effected, and the expenses and losses of war better discerned and more apprehended.

Already these British American colonies have become "one of our best customers." In 1851, (see report of the Secretary of the Treasury, 319), the value of our exports to that country exceeded $12,000,000, exclusive of specie, which should be included, being the peculiar produce of one of our States, and the imports exceeded $6,000,000. "Through the influence (says Mr. Seymour) of the relaxations of former restrictions, adverted to by him, the trade has nearly quadrupled in a period of twenty-two years."

In the language of Mr. Pitt, we must look "*to the most enlarged principles of reciprocal benefits to both countries*," but not fall into his error, in proposing to allow American vessels *to export any merchandise whatsoever from Great Britain*, while limiting their *imports only to the goods, the growth or manufacture of America.* We should avoid such an apparent inconsistency with our professed principles. Why should we not abolish our system of bounties, drawbacks, and exemptions to our cod and mackerel fishermen, which is not allowed to our whalers? Why should we not permit colonial built vessels to obtain American registers, that privilege being already granted in England to American and other foreign built vessels? Why drive from our trade any vessel? Why not throw open the California

coasting trade, if not the whole coasting trade; that is to say, to allow British vessels to load in the Atlantic States for California, or from California to the Atlantic States? Why not abolish the duties on fish brought here in colonial bottoms, and require in return the free navigation of the River St. Lawrence—the right of free fisheries in all their waters? There must be no favored ports on either side; no "leading articles" of agriculture, commerce, or manufactures; no native growths or produce; no looking alone to the navigation of the St. Lawrence, or the exclusion of coal; no looking alone to the trade of *our great commercial city* or cities—to the inland navigation and transit trade of the States bordering on the British Provinces—on the agricultural interest, on the manufacturing interest, on the interest of the lake trade, or of the northwest, or of the fisheries, or of the Erie canal, or the Champlain canal; nor of the Ogdensburgh and Boston, nor of the Erie and New-York, the Portland and Montreal rail-roads, nor that of Sunbury, or of any other place; but we are to raise ourselves to a higher platform, and look alone to the revenue and to the interest of the great body of the people of these States. We trust we shall not hear great outcries from Pennsylvanians about their coal and iron. We are told by them that their rail-road iron is worth 3 to 1 in comparison with the English, and that while the wear of the English is 4 and one-tenths per cent., that of the American is only 1 and four-tenths. Protection in such cases cannot be necessary, nor competition dreaded. Besides, we are told by the *Philadelphia News*, that "the iron and coal of Pennsylvania, no doubt, yields at this time $20,000,000 per annum. It is likely that in ten years this sum will have increased to $50,000,000, and our coal and iron trade will eventually make Pennsylvania the richest State, and Philadelphia the wealthiest city, in the Union." Then, surely, these iron and coal masters should not occupy the disreputable position of beggars in the lobbies of Congress, and should no longer expect the people of the United States to throw impediments in their own way, to add to such boasted prosperity.

If the protective policy of England owes its rise to national animosity, it has been well said that ours owes it to "national weakness and vanity;"—the vanity and weakness of one desiring to render himself independent of his shoemaker, and for which folly more than twenty millions are mulcted to make the fortunes of a few capitalists and politicians.

While we expect great benefit to all the States from liberal commercial regulations between the United States and the British American provinces, we cannot expect to derive all the profit on our side. There must be mutual advantages—mutual advantages between the two nations, and liberal concessions and compromises on the different parts of our extensive and diver-

sified country. Each State may desire to exclude some certain commodity which interferes most with its market, and to admit others that it desires to procure as cheap as possible; but while the exclusion of one article may be beneficial to one State, or a majority of its people may suppose so, it might prove very injurious and unjust to all others. Principles, becoming the liberal spirit of the age, must control in the settlement of a great question involving so many interests as this does. The contracted spirit of monopoly must be put aside. The idea that great benefits are derivable from mutual impediments must be abandoned, and the policy of Hook's "Small Coal Man" be given up,

> "Who says as how, ven he gets control,
> He'll make all things dog-cheap—but coal—
> And gin shall flow in each man's can,
> Says my prime little trump of a small coal-man."

The following quotation, from a late *New-York Herald*, (Feb. 1853,) is so apt, that we cannot refrain from inserting it:

"We conceive that a reduction of the duty on coal would not be less beneficial to us than to the colonists. A part of the sixty cents a ton now levied on bituminous coal would be saved in most instances to the consumer. In those branches of industry in which anthracite cannot be used as a substitute for bituminous coal—such as gas factories and certain descriptions of iron factories—the repeal of the duty would be an immediate gain to the manufacturer, and, of course, an ultimate gain to the consumers of gas, iron manufacturers, &c. This, when the enormous and increasing consumption of gas is borne in mind, would be no inconsiderable boon to the public. If Nova Scotia coal could be laid down here at $5 a ton, as we have no doubt it could were the duty removed, it would tend to cheapen many commodities in the production of which coal is used, and would add materially to our individual comforts.

"If any clamor for protection to our collieries, our reply should be brief. The colonists are compelled to extract their coal from pits inland, to convey it by very imperfect means of transit to the sea-board, and, finally, to transmit it in ships to our ports; our coal is at hand, at the doors of the market. If the difference in the cost of transportation and freight be not a sufficient protection to our producers of coal, they are a burthen to the community, and had better turn their attention to some other calling. We respectfully recommend the suggestion to the notice of Congress."

Protection by bounties, high duties, or otherwise, is not necessary to any business that yields the usual profits of capital, and if given to induce persons to follow a losing concern, it is unwise, and unjust to the public.

Whilst we have thus declared ourselves in favor of fair and equal reciprocity, we should hesitate to oppose any step taken towards that object which is not grossly partial in its tendency. Every step taken towards free trade must, sooner or later, lead to another, and each gained facilitates the ascent to another; and we must have patience if the progress is not so rapid as we could desire.

The report of the committee, and the statements and documents embracing the official correspondence on the subject, deserve the serious attention of our statesmen, and should not be neglected by our southern and western press. It is too important a subject to let pass with indifference.

Before we conclude, we beg to call attention to one fact, to illustrate the too often repugnant results of unwise attempts at protection. Before the Revolution, Adam Smith refers to our unprotected fisheries as so much more flourishing than the protected fisheries of Great Britain. But as soon as our general government was formed, under the prevailing idea of the necessity for maintaining a nursery for seamen, the cod and mackerel fisheries became the favorite objects of protection, and have continued so until this day.* Notwithstanding this fostering care of nearly 70 years, that business has greatly declined, while the unprotected whale fisheries greatly flourish; and the committee gives, as the first cause of this decline, the diversion of labor and capital, formerly exclusively employed in this fishery, to certain branches of manufactures; so much so, that in "Beverly, which sent forth annually a large fleet to the banks, there is not a single registered vessel in the cod fisheries." Thus showing that the protection on the part of government of the manufactures of New-England has destroyed that very nursery of seamen about which government was so solicitous. In patronizing the younger darling, it has destroyed the first-born. Such has ever been the wisdom of government protection.

* Mr. John Adams declared in Congress, in 1779, that the fishermen of Massachusetts were no better in substance than slaves to their employers.—3d vol. *Hildreth's History U. S.*, 397.

Art. II.—THE ARMY OF THE UNITED STATES.

MILITARY EDUCATION—REGULAR TROOPS AND VOLUNTEERS—ARMY ORGANIZATION, ETC.

A GREAT improvement in the military intelligence of the country has been apparent, since the first battles of the Rio Grande, in the late war. It is now generally conceded by military men —including all the well-informed of the officers of volunteers— that experience in service and instruction, either at the military school or in the field, are requisite qualifications for command.

It is admitted, in short, that while our citizens in arms have more efficiency, their lives are safer under the direction of men who have some knowledge of service in the field, than under those who are without any, whatever may be their personal qualities or civic distinction.

At the declaration of the war which is called our second war of independence, we had the amount of twelve regiments then in service—estimating the artillery of twenty companies as a double regiment—to wit: one regiment of light artillery, one of light dragoons, the two of artillery, seven of infantry, and one of riflemen. The youngest of these had been organized and in service four years. Can any one doubt that if these regiments had been filled to the war establishment, and assembled in a division of twelve thousand men, under any general-in-chief (having only a firmness of purpose equal to that of Henry Dearborn), it would have been sufficient to overcome any forces which the enemy possessed, or had at any time collected, in Canada? Had this little army been formed into brigades, and commanded by their rightful, though casual, seniors—as was the case at the commencement of the late war, under Gen. Taylor (himself a brevet brigadier),—and the general staff selected from the officers then present, inclusive of the Corps of Engineers,—how long would the posts of Montreal and Quebec have stood uncaptured before it? The regiments of volunteers, and those called "year's men," subsequently raised, could have been more fitly, and less expensively, employed in the local defences of the country. This appeared to have been the design of the War Department, in the first organization of the nine military districts; but there seems to have been no unity of plan, at any time, in the councils of the government.

What an economy of expenditure would have resulted from this course!

The *constitutional* objection with some of our State troops—so disreputable to the government of a republic—to crossing its boundary, would in such case also have been avoided.

A brief view of the course which was pursued in conducting that war will readily account for the exhaustion of the treasury, and of nearly all the government's credit; and from commencing at the extremity of the line, instead of advancing on the main posts at the centre, with the essential defect of organization, to which reference is made, may be easily understood the causes of our disastrous failures.

It is a fact, that after nearly two years of the war had expired, we had scarcely one general officer qualified to lead a brigade, until such of the colonels of experience, as Macomb, Thomas A. Smith, Bissell, Gaines, and Scott,* were promoted; Pike and Covington having been killed, and Cushing assigned to the defence of a district.

Can there be a doubt that for the command of a division, a brigade, a regiment, or a company, an officer of twenty, ten, or three years' experience in service, will be superior to one who has been but twenty, ten, or three months in commission? The proposition is so simple, that it would seem to require an apology for stating it—it being recollected that war is truly called an art—that no human art was ever acquired by intuition—and though battles have been won under tyros, or men without instruction, no exception can be deduced from these; for certainly there is no science, art, or craft, in which man's capacity can be developed, without preparatory trial or training.

A free display of the knowledge and ability possessed by an officer requires also coolness and self-command. These can only be attained by adequate experience and the full practice of discipline; and the longer the experience and the more the practice, the greater, of course, will be the self-reliance and self-possession. It is preposterous to expect that a citizen, whatever may be his personal bravery, can exhibit such qualities in his first engagement, or on his first command of men in action. He may exhibit rashness—of which numerous instances will at once occur to the memory; and many instances, too, of the consequent waste of his men's lives will be recollected.

Thus it will ever be found that in those parts of battle-fields where have been displayed the least military foresight and skill, there will be the greatest destruction of life, with the least success, not alone to be accounted for by the superiority of an opposing force. Such may be assumed to have been the case, from the representations of officers of the volunteer regiments themselves, on the *left* of our line in the victory of Cerro Gordo. And in parts of the great battles of the Valley of Mexico, instances can be named where the superiority of opposing forces could not have been sufficient to account for the partially disastrous results. It is a truth, obvious to the men of service, (but

* Mentioned in the order of seniority.

which has, of course, been unregarded by our civilians, in their preparations for the field,) that where the best skill in position, and the most efficiency of fire are exhibited, the least injury will be received from the enemy, whatever may be his superiority in numbers. In the attack and capture of the enemy's strong positions on the *west* of Monterey, this theorem was beautifully illustrated. And at Buena Vista the best disciplined and best commanded of the regiments which so signally stood their ground in that hard-won conflict, furnish also illustrations of this maxim.

On the emergency of a war, it has been argued that to facilitate the raising of volunteer forces, it is necessary to commission from civil life men of popular distinction, to command brigades, regiments, &c., to gain their personal influence in calling the people more speedily to the standard of their country. But is there any reality in this argument? After the battles of PALO ALTO, LA PALMA, and FORT BROWN, were there not field-officers and captains, and even elder lieutenants, of those who had gained such wide-spread applause, whose names would have been equally, aye more, effectual in rallying volunteers to the standards of new regiments and brigades? In those states particularly, where such officers were claimed as fellow-citizens, and where whole communities were proud of their glorious achievements, can there be a doubt of the superior influence and success of those in the fulfilment of such a trust? Certainly the good sense of our people, and ardor for the service, would both be better satisfied by their expected reliance on the lead of such tried and approved commanders.

A better system of rewards for gallant and distinguished services might be adopted on this plan—to replace the one by brevets, of more usefulness to the country, and of less objection with the permanent corps: the same provision being made for the restoration of the officers so employed to their former corps, at the end of the war, as was made for the six or seven so fortuitously taken in the last war. [See remarks at the end of this article.]

The writer is far from claiming that the requisite preparatory instruction to qualify officers for the service is only to be obtained at the Military Academy. After the precedents of the brilliant names which the army registers have borne—of Scott and Taylor, Gaines and Jesup, Worth, Kearny, and all the twenty-three general officers in service and on the register of 1850 (omitting those from the military school), besides the names of Edmund Kirby, Brown, of the 7th; Scott, of the 5th; Allen and Page, of the 4th; Alburtis, Lincoln, C. Hanson, and of others, still living, who were not graduates of that school—such a claim could not be sustained. But it must be observed, that all of these, with no material exceptions, rose from the lowest grades of rank,

and received their instruction through all the intermediate grades of advancement.* The only peculiar case, of the twenty-three generals referred to, is that of the colonel of mounted rifles, whose previous course of military instruction and actual service in the Florida war will fairly account for the exception.

The great names also of Brown and Jackson, under whom the reputation of our country for superiority in arms was first established, may be cited as exceptions to the rule requiring preparatory military service for commands-in-chief; though the hardy pioneer enterprises of the former, and his recent achievement in the defence of Sackett's Harbor, and the actual experience of the latter and successes in previous wars, had given fair assurance of the higher qualifications of commanders.† And at the most, after so many experiments of this kind by the government, it would be strange if a few exceptions should not be found to the safest and clearest principle of military organization. It would be no evidence of military discretion or wisdom, if a tried commander, at a future day, should deliberately engage an enemy of 20,000 well-organized troops, with a force of less than 5,000, and of these, fewer than five hundred regulars, and for the justification of his acts should refer to the example of General Taylor, who had done this and triumphed. Such a commander might calculate the *chances;* and, relying on his disciplined chiefs and his experienced general staff, the emergency might be such as to justify the attempt; but certainly the example could not be adduced as a proper military precedent, even for American troops.

A more particular reference is not made to the names of those distinguished in the war of 1812, as the number of graduates from the Military Academy up to that year, all told, was but seventy-one; and the number, therefore, in service was not sufficient to officer the new levies. But it must be remarked, that the *whole* of those graduates were strangely overlooked, in making the higher appointments at that time in the new corps; not that *they* had any claims to advancement, but the interests of the government, if properly represented, had claims to their services in higher positions, speaking of the major part of them —among whom appear the names of Swift, McRea, Totten, *Heileman*, Gratiot, *E. D. Wood*, *James Gibson*, (promoted in the staff, and two years after to colonel 4th rifles,) Post, Thayer,

* The general-in-chief, and the Generals Gibson and Bankhead, Wool, Twiggs, and Towson, commenced their service in the grade of captains—all the others as lieutenants or ensigns; Major-General Brady first entered the service as an ensign in 1792, and recommenced as a colonel in 1812.

† The distinguished name of Boyd, who commenced as colonel of the 4th infantry, might also be considered an exception; but he had previously, in the East Indies, evinced extraordinary military enterprise, and had seen very active, though irregular, service in the field. [See his name in the "Dictionary of the Army."]

Rathbone, Peters, Magee, (who sought a juster estimate in the patriot service of another republic,) *A. J. Williams*, A. Larrabee, *H. A. Hobart*, Dalliba, Loomis, *Burchsted*, *Ronan*, *Wilcox*, Hight, *W. W. Smith*, and others. (Those whose names are *italicized* laid down their lives in the field.) Except the first named, who was a major, and McRea, Gratiot and Gibson, who were captains, all the rest, when the new corps were commissioned, were left subalterns, and in most instances subordinate to the raw materials appointed over them! That it would have been to the advantage of the government and the country to have selected from these, and from others of higher station and long experience then in the army,* the commanders of divisions,

* Of the other officers, who had been in service before the declaration of war, and were subsequently distinguished in the grades they held, either in battle or by being selected for staff commissions, the following names were entirely overlooked at the time of the appointment of general and field-officers for the new levies, required for immediate and efficient service:

(*Of Field-Officers:*) Kingsbury, C. Freeman, *Backus*, Milton, James Miller, Fenwick, McRea, Nicoll, *Stoddard*, Bowyer, Laval, Eustis, Floyd, Posey, and Geo. Gibson.

Of the Artillery: (Capts.) Read, N. Freeman, Beall, Whiley, Wollstonecraft, House, [prom. in 1813,] Walbach, A. B. and Geo. Armistead, Wilson, E. Humphreys; (Lieuts.) *Hanks*, Gates, Gansevoort, Proveaux, Bennett, E. A. Allen, Darragh, Lomax, Sat. Clark, Fay, M. Mason, Vandeventer, Fitzgerald, Ewing, Sands, T. J. Beall, and Ezra Smith.

Of Light Artillery: (Capts.) Macpherson, J. N. McIntosh, McDowell, L. Leonard; (Lieuts.) Melvin, Thornton, Stribling, Boisaubin, Ketchum, Arms, Irvine, J. R. Bell, Murdoch, Randolph, W. F. Hobart, and Sumter.

Of Light Dragoons: (Capts.) Helms, Hayne, Halsey, Cummings; (Lieuts.) Littlejohn, Haig, Hukill, Boardman, Kean, H. Whiting, and Birch.

Of the 1st Infantry: (Capts.) J. Whistler, Heald, Clemson, Swan, Pinkney, Stark, Hughes, Baker; (Lieuts.) Whitlock, Symmes, Knight, Kingsley, H. Johnson, Brownson, T. Hamilton, Albright, Ostrander, Perkins, Helm, Bryson, Page, Campbell, Stansbury, Vasquez, and Bissell.

Of the 2d Infantry: (Capts.) Boote, Campbell, Arbuckle, Carson, Pratt, Brevoort, Miller; (Lieuts.) Chamberlin, Luckett, Peyton, Pemberton, Ware, Davis, Brownlow, Wirt, H. Bradley, Willis, Villard, and Bliss.

Of the 3d Infantry: (Capts.) Bird, Nicks, Atkinson, Woodruff, Clinch, Dinkins; (Lieuts.) H. G. White, W. S. Hamilton, Butler, Chotard, Herriot, Laval, and Morley.

Of the 4th Infantry: (Capts.) Cook, Prescott, Snelling, Barton, Adams, Fuller; (Lieuts.) C. Larrabee, J. L. Eastman, Peckham, Gooding, Bacon, and Greenhough.

Of the 5th Infantry: (Capts.) Bankhead, Johnson, Brooke, Whartenby, Chambers, Dorman; (Lieuts.) Opie, R. H. Bell, R. Carson, Jamison, and Saunders.

Of the 6th Infantry: (Capts.) Beebe, Machesney, *Nelson*, Arrowsmith, G. Humphreys, Walworth, Muhlenberg, Sterry; (Lieuts.) Ed. Webb, Shell, and Thompson, [since killed in Florida.]

Of the 7th Infantry: (Capts.) Blue, Oldham, Doherty, Cutler, Z. Taylor, [since President,] Overton, C. Nicholas, A. A. White; (Lieuts.) Broutin, Robinson, Waide, Vail, G. O. Allen, and E. Montgomery.

Of the Riflemen: (Capts.) Sevier, McDonald, Forsyth, H. R. Graham, Visscher, Hays, *L. Morgan*, Appling; (Lieuts.) Josh. Hamilton, Patterson, Ramsey, and Smyth.

No more gallant and accomplished officers than these could be found in any army in the world. When the appointments were made for the new regiments then to be raised for the war with Great Britain—without commenting on the de-

brigades, regiments, &c., will now be generally conceded. But they were left to acquire future rank and position for the service of their country, by the slow occurrence of vacancies in their own corps, or the adventitious rank which those who survived could win in the battle-field, by *brevet*. May it not be fondly hoped, that they, who in their lowly stations thus pledged their lives for the chances of distinction, will not have lost all their stake, but that their names may yet preserve some lustre in the well-filled record of their country's heroes?

The contrast of the prowess displayed by our naval armaments, in comparison with that of our land forces, in the war of 1812, has been glaringly presented to the nation. The causes, after what has been said of the treatment and construction of the army, may be easily comprehended. In the first place, the officers of the navy, in their several grades and regular promotions, had been left undisturbed by the government, and consequently as a corps, were older in commission, and therefore superior in discipline. In the next, the care taken of the navy by the government, at the commencement of the war—even, according to the wish of the executive, to keep it out of the conflict, and the treatment of the army—pushing its unorganized and undisciplined levies into the enemy's country—even permitting them, in detached parties, to come into collision with the garrisons of an old and well-practised opponent, presents a most remarkable contrast. The interesting point however, in the contemplation of the two arms on that occasion for our future profit, is—that the corps of the navy, exhibiting at that time such superior efficiency, had been, and was, in its integrity

pression of spirit to which these were subjected, individually, on seeing men ignorant of the service, and totally uninstructed, appointed to grades above them—the surprise is, that the government, for the sake of bestowing the patronage otherwise, could be induced to forego the *advantage* of employing such qualifications as were obviously possessed by these men—so indispensable for sustaining the honor of the government and the country. But all of these in the list given—with the exception of staff commissions, which gave them no command—were left as they were. Several, including some who are not named, threw up their commissions. A few cases occurred like that of a lieutenant of the 3d infantry, who resigned in November, '12, and in March, '13, was appointed a major of the 10th; and at the reduction of the army was retained a lieut.-colonel of the line.

The few (of the officers then in service not named in the list preceding) who were honored with higher commissions in the new regiments, were *all*, who were living, retained by the Board of Generals, at the reduction of the army, with their advanced rank. And several of those named in the list, who were subsequently advanced, were also retained in the same manner. But it will be admitted by all who have any personal knowledge of the officers passed over, that any of them—referring to the greater part—would have been equally distinguished, and rendered as valuable service to their country, if the same opportunity had been afforded them, by the same appreciation of their merits. A consideration of the highest importance—indeed the only one—for it is not pretended that these officers had any *claim* individually, beyond their right to promotion in their several corps—is the confident relief and reliance, that in the future engagements with the enemy, very different results would have been accomplished.

and unity, left intact by the government, and free from interpolation. After its first victories, under its old captains, the influence of its officers was sustained by the sense of the nation. The ambition of citizens having political influence to gain commissions on the ocean, over the heads of officers in service, did not prevail, as in the army.

It might be supposed, that there are occupations and conditions in civil life, which better adapt our citizens to an immediate transfer to commands in the field, than there are for commands on the ocean; but this would be a gross mistake. The service in our mercantile marine, which pervades all corners of the earth, and the seamanship of its ship-masters and their mates, furnish good qualifications for the command of men-of-war. The exploits of some of our privateersmen have given ample proof of this; but political, or rather, party influences, do not much prevail in sea-ports, nor in our mercantile classes.

At the conclusion of that war, when the great reduction of the army took place, the organization of a permanent peace establishment was finally adjusted in the councils of the nation, having a wise view to the most effective preparation for future war. The theory of a distinguished statesman, who succeeded to the direction of the war department, was adopted,—to preserve such a general staff, and a skeleton of corps for the line, as could, in the event of war, be most promptly enlarged to a full and effective war establishment. But what has been exhibited on the occurrence of the event contemplated? When the late war broke out, and the legislative power was called into action, the whole theory, so obviously suited to the purpose then to be effected, was almost entirely disregarded. After the provision for recruiting an increase of the rank and file, the 'skeleton' was left to act by itself; and when officers were required for the additional forces to be raised, the officers of the old corps were left as they were, with their existing companies and corps!

We had then, besides the corps of the general staff, fourteen regiments in service; all the officers of which were more regularly trained and accomplished than those of any other army in the world,—for no family influence, royal or noble, had ever interfered with their just advancement—(the rules of promotion having been enforced by the Senate.) The battles of *Palo Alto* and *La Palma* had been fought, when there were *eleven* new regiments added to the army—which were officered, as of old, from civil life! The result was, that out of two hundred and sixty-four appointments, of the rank of field-officers and captains, but *seven* were taken from the army,* and less than

* These were Colonel Andrews, (Paymaster;) Lieut.-Colonel Fremont, (Second Lieut. and Brevet Captain of Topographical Engineers.) Lieut.-Colonel Graham, (Brevet Major of Infantry, of thirty years' service;) Lieut.-Colonel Johnston, (Cap-

twenty selected from the thousands of retired officers of great merit and experience; some of whom had been distinguished in the field; and would eagerly have engaged in the new war, with the mere advancement in rank to which they were entitled, granting that they were not made subordinate to those who had no pretension to the rank conferred. Of the volunteer regiments, the officers were principally chosen by the volunteers themselves, and they, were commissioned, of course, by the state governments; but there were more men of military education chosen for the volunteers, than there were in the regular regiments.* Some of those from the army, who received appointments in the new corps, were of undoubted merit; but they were all indebted to the favor of influence "at court" for their preferment.†

Thus the executive yields up the power to carry on a war more efficiently, with less expenditure of life and treasure, more successfully, and therefore with greater popular applause, to the apparent necessity of conciliating the friends of the Administration in the legislative branch, who should be friends only to the cause of their country;—giving up the control of appointments to perform military duties to those who have as little capacity as they have right to interfere—no responsibility when they do, and no motive (with exceptions which only prove the rule practised) but the motive of personal advantage or gratification—a motive very inconsistent with, and in many cases even hostile to, the good of the service and the object to be accomplished. Even the additions made for these levies, to some of the staff departments, seem to have been made on the principle that for raw and new-raised troops, the new quarter-masters and commissaries should be equally raw and unpractised, as if they would thus be best adapted to the service required! (The newly-created generals, having divisions and brigades to com-

tain Topographical Engineers;) Major F. Hamilton, (a first Lieut. of Dragoons;) Major Talcott, (first Lieut. of Ordnance;) and Major Woods, (a Captain of Infantry.)

* In the Virginia regiment of volunteers all the field-officers were graduates of the Military Academy—Colonel Hamtramck, Lieut.-Colonel Randolph, and Major Early; and in the famous second Kentucky regiment, the same—Colonel McKee, Lieut.-Colonel Clay, and Major Fry; and others, whose names are given in the lists of volunteer regiments annexed to Gardner's Dictionary.

† The confusion in the assignment to the different *grades* in the army, of those who had formerly served, and were so lucky as to get commissions, might have been expected from the manner of their appointment—former captains to companies, and lieutenants to the command of regiments; but, as it were the purpose to humble the pretensions of rank, and degrade the claims of former service, the government, in ordering the settlement of rank among those appointed to the *same grade*, departed from a long-established usage of service, and even violated an article of *executive* regulation,—to wit: "If the parties have served in the army or marine corps, and have been disbanded, the rank held by them respectively is to be regarded next to rank in actual service at the time of their appointment." [Art. II. Sec. 4.]

mand, did not select their personal staff on this principle.) Fortunately for the reputation of the country and the fame of her arms, the direction *in-chief* of any of our armies in the field was not given to newly-appointed commanders, either raw or rusty;* but was left with the generals, who were in actual service, having the recognized and unquestionable right of command.

What is the secret of the so unvarying good conduct and prowess displayed by our *regular* troops, in the battles of the Rio Grande (and no other description of troops was there), conquering a superior and well-organized force, commanded by the ablest of the Mexican generals? It is, that every officer in our line, of all the grades of rank, was conscious that he held the precise position to which he was entitled,—no room being left for any impulse, but that of displaying to his superiors his best ability and gallantry, and winning for his corps and his country the greatest triumph.

If the military establishment of the republic had been kept distinct, and men of political ambition had not been translated to it, there would never have been any interference by military men with *political* affairs; and our peace establishment, as we have endeavored to show, could have been made amply sufficient for any future military service, which would ever be required on this continent. A military institution to be efficient, must always be conducted on principles essentially repugnant to those of free government; and therefore the profession of arms ought, under such a government, to be kept carefully distinct, as well as subordinate. The case of Washington, it was admitted by all, stood alone; and could never be made a parallel for the position of any future military chief, under the Constitution. But as statesmen have committed the first error, and politicians have adopted the last, for the facility of popular management, it only remains for us to abide the consequences.

* The attempt was made even to do this!—The purpose of these notes and observations must not be misunderstood. The writer certainly has no design to sustain a claim to precedence, for any of the *civil* officers of the country, founded on military distinction. On the contrary, the inference is fairly deducible, that, as he conceives, every profession requires preparatory training. He believes in the force of Mr. Jefferson's saying, that "you might as well make a sailor of a cock, or a soldier of a goose, as a President of a mere military hero." Though he does not believe it had a just application to the hero of New-Orleans, to whom Mr. Jefferson at the time referred. Andrew Jackson, though "a military chieftain," had much experience as a statesman. It is a duty, however, to add, that the truth of the saying has been amply confirmed by the last military occupant of the chair of state—in the exhibition of unfitness which he made to the observation of both the great parties of the country;—and this by one whose achievements in the battle-field, on the records of his country's history, will stand gloriously conspicuous through future ages; while the circumstance of his elevation to the chief magistracy, among the names of the numerous Presidents of civil distinction, will be passed without notice; or only be noticed to regret the dark shade which it has thrown over the lustre of his fame.

REMARKS.

It has long been an impression of the writer, that on the reduction of the army, at the peace of 1815, the *esprit du corps*, so highly estimated and carefully cherished in every service but ours, might have been made available, not only as a future incentive of pride and emulation in the regiments retained, but to add greatly to the inducement and facility of enlistment among the people of the several states; so essential a want, whenever the crisis demands a sudden increase of the regiments to a war establishment. It was simply by preserving the *numbers* of the distinguished regiments, and those from which distinguished officers had arisen; and by arranging the officers retained, as near as might be, to their former *numbers*. Though the time has elapsed when this can be done, yet every reader who has been in the service, will take an interest in the following *projet:* which, it will be perceived, has a double relation to the states from which the regiments, were originally raised, and to the distinction they acquired, both by their members individually, and as corps.

Numbers to be preserved on the Colors and Buttons.		Distinguished Officers of the Corps up to the 25th Regiment.	States from which raised, and from which to be filled.
1. 8th		(Pike) Bissell—Pinkney—(Cumming,)—D. Baker—Twiggs, &c. [Those of the 44th. W. O. Butler—Call—&c., could be included.]	[Old corps.] Georgia, and South-Western.
2. 24th		(Cushing—Gaines—Boote)—Arbuckle—Fr. Armstrong—Robert Butler—Pitt—Lawrence, &c., [Those of the 18th could be added.]	[Old corps.] Tennessee, and Western.
3. 12th		Atkinson—(Preston)—Clinch—W. S. Hamilton—Nicks—W. Morgan, &c. [Those of the 10th and 20th would belong here.]	Virginia, North and South Carolina.
4. 21st		(Boyd—Ripley)—James Miller—Snelling—(Grafton)—Peters—Plympton—E. Kirby, &c.	Maine, Massachusetts, North and Western.
5. 22d		Brady—King—(G. Gibson)—Chambers—Brooke (Vir.)—Whartenby, &c. [Those of the 14th and 16th could be added.]	Pennsylvania, Delaware, Maryland, &c.
6. 13th		(Chrystie)—Wool—(Nelson)—Machesney—Kearny—Thompson, &c. [Those of the 15th and 23d. H. B. Armstrong—Worth—Belknap, &c., would belong here.]	New-York and New-Jersey.
7. 17th		John Miller—(J. B. Campbell)—Croghan—Jesup—Blue—Cutler—Z. Taylor, &c. [The 19th also would belong here.]	Kentucky, Ohio, and Western.
9. 11. 25th	Scott's Brig.	(Aspinwall)—Leavenworth—McNeil—Foster—Watson—Ketchum—Brown, &c.	New-Hampshire, Verm't., Rhode Island, and Connecticut.
Rifle.	Scott's Brig.	T. A. Smith—McDonald—(Forsyth, L. Morgan)—Appling—Bradford—Riley, &c., &c.	Generally Western.

It will be perceived that the colonels of six of these nine regiments would take their places appropriately. As two appear in the 5, 22d, *King* would take the 6, 13th, and for the same reason *McDonald*, (who should have remained in the rifles). the 2, 24th, and *Nicholas* (b. t.) the 9, 11th, 25th. Then the lieutenant-colonels and majors could have been arranged—being all the field-officers first retained—as follows: (Major Many, as well as Bankhead and Overton, being left in the artillery)—

	Colonels.	*Lieut. Colonels.*	*Majors.*
1, 8th	Bissell	Pinkney	Gardner.
2, 24th	McDonald	Arbuckle	Lawrence.
3, 12th	Atkinson	Clinch	Brooke.
4, 21st	James Miller.	Snelling	McNeil.
5, 22nd	Brady	Trimble	Chambers.
6, 13th	King	Brearley	Wool.
7, 17th	John Miller	Croghan	Jesup.
9, 11, 25th	Nicholas	J. L. Smith	Leavenworth.
Rifle	T. A. Smith	Hamilton	Appling.

The artillery (in which arm the distinguished officers were innumerable) might have been retained in *five* battalions of eight companies each; one battalion being of light artillery, with one colonel as chief of artillery. And if the rifle regiment had to be reduced, one of the regiments of infantry should have been designated for the rifle and light infantry service and drill.

In five years, i. e. by the year 1820, six of those colonels were changed, and all the lieutenant-colonels and majors; the cast could then have been made of the field-officers remaining in the line, by interchanges or transfers when the promotions took place, as follows:

1, 8th, Bissell, Nicks, and A. Cummings.
2, 24th, Arbuckle, Lawrence, and Baker.
3, 12th, Clinch, Brooke, and Dinkins.
4, 21st, Snelling, McNeil, and Gray.
5, 22nd, Brady, Humphreys, and Whartenby.
6, 13th, King, Wool, and Muhlenberg.
7, 17th, Pinkney, Taylor, and Cutler.
9, 11, 25th, J. L. Smith, Leavenworth, and Vose.

Rifle regiment—as regularly advanced: (if Appling had been retained in his corps, he would probably have remained; and perhaps McDonald also.)

If this organization and arrangement had obtained (with the same officers who were in service), the reduction and derangement which took place in 1821 would not, in all probability, have been passed by Congress. It is easy to perceive how much more readily inclined the country and its representatives would have been, to preserve the distinguished *numbers* of these regiments, and to resist their reduction, with the powerful influence they would have had from the pride of the states. In the event of war, when the increase of the establishment became necessary—under the same influence, and the influence of wisdom in sustaining the best interests of the country, the advantage would have been secured to the existing establishment, of enlarging the corps on these numbers, and even, with the omitted numbers, of forming a brigade of each. The officers of these could have supplied, at least, the field-officers and captains of seventeen full regiments. From the efficient officers who had *retired*, during a long peace, from the army, after a public notification had been issued by the war department, a selection, for reappointment in the enlarged or added corps, could have been made; with a stipulation, by legal provision, that no retired officer should be appointed to a higher grade than that he would have held had he continued in service

Previously to such enlargement, on the first occurrence of a war, as in that of 1846, though but few of the officers of the old corps continued in the field, and the *esprit du corps* became, as it were, traditional—if the same prowess and gallantry displayed by the officers then engaged had been achieved under the organization proposed, with the designated numbers preserved—what might not have been the enthusiasm felt and expressed throughout the country for the accumulated glory of these corps!

A political objection may be raised to this plan of organization—that it might lay the foundation of sectional jealousy and division; but it will be found, on further examination, that it would result in the reverse of an objection, and produce advantages. In the event of a "rebellion," it would furnish the means of avoiding the use of that corps of troops which may appertain to the section involved; and in the case of servile "insurrection," vice versa.

The chief officers of the several departments of the government, under the President, are selected and appointed in reference to the different sections of the country. There is sufficient unity and nationality in the Supreme Court, though strictly constituted from the several sections of the Union. And in the cabinet council, there has been no want of nationality, though in its formation the sections are regarded.

Excepting the navy, whose organization seems best adapted to its destination, the army is the only institution in the *organization* of which the sections are not regarded; and is, of course, without the benefit of sectional interest in its preservation, and without that powerful incentive in the separate corps to noble emulation and achievement.

There is another method by which a more effectual inducement and facility could be given, throughout the interior of the country, to enlistments, and thereby effect a two-fold advantage—first, to secure its influence for the great desideratum of more rapid enlistments; and secondly, to improve the *personnel* of the ranks, and thereby lessen the enormous evil of desertion,—an evil for which no remedy, in the least effective, has ever been devised. It is, to select, out of

the forty sergeants and non-commissioned staff of each regiment, three or four, annually, for promotion to brevet second lieutenants, the selection being made on the recommendation of their commanders. It is well understood, that the officers of the army, generally, are opposed to this measure; they say, that old non-commissioned officers, of great merit, are rendered valueless when made commissioned officers. This may be true, in reference to the old sergeants; but not to the young, who have sufficient education. If you expect ever to draw into the ranks of your regular regiments the young men of spirit and ambition, who are natives of the soil, you must furnish them some inducement and opening for the exercise of their ambition. Furnish them, at least, the prospect of meeting, in a portion of the ranks of each company, a few of their own caste, with whom they can associate, without feeling that they have degraded themselves to the level of the slaves of the old world, or the refuse of our populous cities; and can thus be saved from the insuperable inclination to desert on the first opportunity. The military institution is necessarily the same in all countries; but it is believed that, for some years past, there are more non-commissioned officers in the British service annually promoted in the same number of regiments than in ours. It is an example which should not be contemned in the government of a republic.

Whether, in connection with this proposition, the thought could be entertained of limiting the Military Academy to the instruction of cadets solely for the scientific corps, inclusive of the artillery;—whether, in that case, a surplus number would be requisite, from which a selection could be made, leaving a portion to be disbanded at every annual examination—or otherwise, whether such an organization could be given to the scientific and staff corps, as to commence their first appointments with the grade of captain, or first lieutenant, in each; so that all vacancies might be filled by selection of the most competent from all the subalterns of the army—with, perhaps, a previous trial "on extra duty," as formerly in those corps—are suggestions which may be left to the future influence of military intelligence and economy over the law-making and executive authorities.

A great objection to any change touching the organization of the army, or its system of government, is the vacillation it causes, in addition to that already of record, in the legislation of Congress; by which changes heretofore, and the mode of carrying the laws into effect by executive acts, the consequences have been, to depress the pride of the corps affected, and injure the spirit and efficiency of the army. An exhibit of all the acts passed by Congress for changes of organization, increase and reduction of the army, brought together in a *tabular abstract*—as will be seen prefixed to the *Dictionary of the Army* under notice—will surprise the reader, whether a military man or statesman. The present organization has continued longer than that of any former period; and having shown its efficiency so admirably through the Mexican war, in the general system of the staff departments, as well as in the different arms of the line, it will evidently be best to preserve it as it is. Some minor reforms, and perhaps reduction, could be wisely made in some of the staff departments;—and having now in the service, eight general officers of the designation of "major-generals"—(there were at the end of the war 14, and including the additional forces, 21)—there is obviously requisite a separate designation for the general commanding the army. There is also indispensable, a fixed and unequivocal rule, having the force of law, to define "brevet rank," and the rank conferred by staff and former commissions. The orders and regulations on this subject, at present in force, are in collision with the former usage of our service, and the usage of the British service (having a similar article of war), for centuries; and, what is more serious, they are, in some measure, in conflict with the law in our articles themselves. It is certainly important to provide, that when two gallant officers shall meet "on detachment," an expression now of ambiguous construction, there should be no room left for any disputation on their relative rights of command.

Art. III.—THE TELEGRAPH.

No. II.

THE discovery of the distinctive properties of electro-magnetism, as evinced in their adaptation to telegraphy, was the introduction of the elements of a new science, of extraordinary scope and marvellous utility. Much that philosophy had previously taught upon the subject of electrical phenomena had to be revoked, modified, or wholly explained away; and vague theory and conjecture were scattered to the winds, as, unheralded by long preparation and learned display, practical genius brought forth the splendors of this magnificent wonder. It is not singular, therefore, that a question should arise, as it has done, in which the originality of discovery and right thereto are disputed and undetermined; that the claims of the real author should be slighted for the empty pretensions of another; and that nations, thrilled and gratified at every fresh revelation, should deem it not beneath them to contend for the high honor of having given birth to the illustrious discoverer. It may well be asked, what discovery or invention, whether in art, in science, or physical pursuits, has not been the source of jealousy and dispute among contemporary aspirants, sometimes sustained and embittered by all the arrogance and virulence of national pride and prejudice? The historian or the annalist, whose duty it is to sum up the pretensions of claimants, and impartially discriminate on the merits of each, is greatly perplexed in his task, and is often wrought upon by influences of which he is not sensible, and again is led to discard the most incontestable evidence, as if to mark his preference or display his bias. Hence the inquirer after knowledge, gleaning information from the labors of others, is frequently left to his own unaided opinions and resources in fixing the date of an epoch or event, or establishing a priority of right in discovery—in either of which he is liable to repeated error, when, as in the present instance, the elements which go to make up the claim have flashed from many intellects through a long series of years, and been caught up and transmitted to posterity in mere scintillations. Let those, however, who delight to weave intricacies for the pleasure it affords, continue to throw doubt and mystery around a plain truth, and accord the honors to another which are due to Professor Morse. Our present business is with the details of a great science, not the features of a personal controversy.

The discovery of electro-magnetism aroused the curiosity and the interest of philosophers who had filled the world with their

fame, and who had ceased to think that the physical creation held a secret not familiar to them. They were startled and entertained, because there was nothing vague or uncertain in it. It was one of those brilliant achievements of science which marks an era, and precedes the breaking up of a grand fountain of knowledge. It was a discovery unassailable; and bore upon its surface a complete refutation of fraud, and every guaranty against disappointment. It vindicated the only theory propagated for it, and justified, by practical tests, the expectations entertained of it. Philosophers then asserted, that if the distinctive properties of electricity really resided in that body as demonstrated, (of which they had the soundest proof,) and were identical with atmospheric lightning, the establishment of a system of telegraphy by their agency was not the only employment to which they would be put, or that be the only invention to which genius would apply the discovery. This hypothesis, so promptly advanced and so well sustained, stimulated the most active inquiries and provoked the profoundest research. The world was still dazzled with the conquests of steam, and, it should be thought, would have hardly been prepared to abandon any of their partiality for this mighty agent, however extraordinary the plausible features of another discovery. Steam had accomplished much, and its exploits still left unanswered the questions, to what limits it could be extended as a motive power, and what utility it might possess as a labor-saving agent and an expedient economist. But the period was auspicious, and fertile of wisdom and enterprise. Thrones had ceased to totter, and dynasties to arm against each other. Peace had begotten a spirit of industry, and nations had begun to recover from the evils of exhausted exchequers. Steam had already caused continents to be begirt with bands of iron, and hemispheres to be interlocked by the embraces of the huge steamer. The age was ripe for experiment, and here was a discovery for which there was promised inconceivable things. The wildest enthusiast had never valued steam beyond the considerations which attached to it as a motive power and economist. From the electro-magnetic discovery more was expected, because it was of a nature to lead investigation into a hundred channels, and to encourage enterprise in seeking to unbar the door to the vast treasures which the science still evidently concealed. And while influenced to make these forays, genius barely paused to ponder on the extent of that unoccupied field it would have in which to adapt its discoveries.

However seemingly practicable may be a theory, if we strictly conform to the laws that should govern it, we always encounter a number who aspire to deduce from it a capacity even at variance with its nature or fundamental character. Some were

not content with assuming or believing that electro-magnetism, or its affinities, were destined to operate a great change in our pursuits of knowledge, and in supplying certain requisites indispensable to human progress. In consequence, many failures have been the result of much time wasted in fruitless attempts to extract virtues from electricity which it does not possess; but every such instance has been attended with advantage. The accurate philosopher has been emboldened to pursue his object with more confidence, while such as have wavered between reason and transcendentalism have imbibed experience by the example, and tread warily towards the goal of their ambition.

So that, passing over the lapse from 1832 to the present time, without noting the futile experiments of that period, let us at once proceed, and follow those who have gained an entrance into the inner chambers of the science, and occasionally send out a ray disclosive of the wealth almost within their grasp.

Refined art, next to mechanics, is deepest indebted to the discovery of electro-magnetism. The working of metals by electric currents is of recent origin. As early as 1804, electro-gilding had been practised in France and Germany, and shortly after, in England; but the idea of making castings by electric currents did not occur to philosophers until after the introduction of Daniel's battery, to which the art was incidental. Russian metallurgists, who have been among the first of any scientific age, maintain that the discovery of producing electro-castings belongs to them—that the subsequent successful experiments of the English were the results of that knowledge imparted to them by their more forward northern neighbors. Without disputing as to priority of claim, for we have no data on which to predicate a positive opinion, it is enough to state that until the invention of Daniel's battery, the improved metallurgic art, if known at all, was practised to a very limited extent. Jacobi and Spencer solved the difficulties which still beset the discovery, notwithstanding the principles involved in it were now generally understood. They simplified these principles to a method; and philosophy had little to do now but conform to this method, and mechanical skill to be controlled by it.

But one branch of metallurgic art was not to monopolize all the advantages which had flowed to it by the discoveries in electro-magnetism. After successful experiments in electro-plating, genius advanced another step, and produced multiplications of letter-press—as metal type, wood-cuts, zinc engravings, &c., which is now conducted as an art itself, called electro-stereotyping. Spencer predicted many improvements in this department, and averred that copper-plates would ultimately be multiplied; but until quite recently, neither ingenuity nor skill was able to overcome the difficulties which trammelled the attempt.

The main obstacle to be surmounted was in the duplication of the delicate lines of the plate. The great cost of the plates, in the first instance, would not justify private enterprise in any extended system of experiments; and government patronage seems to have been wasted, in some cases, on unworthy objects, and in others without compensatory reward.

Meanwhile, inquiry was directed to the thermo properties of electricity, as applied in the countertyping of animate and inanimate nature, and in the transfer of natural colors. At a late sitting of the Austrian Academy of Science at Vienna, this whole subject, in detail, came up for consideration. Following the discussion, Herr Von Auer read a paper on a newly-invented process of printing from all sorts of objects with comparatively plain surfaces. Among the articles mentioned, which had been truthfully copied, were plants—some of them in flower—embroidery, etched agate, insects, fish-scales, &c., and objects of a larger surface. The speaker named the process, "*Naturselbstdruck*," (printing from nature.) The discovery forms an era in the pictorial illustration of works on science and art, the future importance of which cannot be foretold. Herr Von Auer did not mention at the time that the process required or employed electrical agency; but a French *amateur*, who has facilities for knowing, declares that electricity, in some form, is absolutely essential to its success. While thus abroad experimentalists are giving their attention to the reproduction of living and inanimate objects on canvas and on plates, by electrical agency, at home we have minds intent on the same end, though their schemes vary, and their modes of procedure are dissimilar. James Campbell, Esq., of Ohio, in a paper contributed to the *Scientific American*, remarks on the process of obtaining colored daguerreotypes. He says: "As electricity is a powerful agent in decomposing chemical compounds, it might be naturally inferred that it would aid in this process. I have often tried it, but without, until lately, any very important results. Dry chloride of silver is not decomposed by electricity, yet its decomposition by light and other agents may, by it, be much accelerated; and I did not at first use a sufficiently powerful current." Undeterred by failure in his first essays, he renewed his experiments in the use of electricity, until his object was accomplished. He then remarks: "These pictures are developed under a hard, tough enamel of chloride of silver, cannot be rubbed out by the fingers, and will even bear considerable buffing; and, if the enamel is thick, are improved by the operation"—or hard usage they receive.*

These discoveries, yet in their infancy, are destined to work

* We copy from an exchange the following curious incident. A little girl was standing at a window, before which was a young maple-tree. After a brilliant

miraculous results in art, in science, and in artistic design. Their features of practical utility afford equally flattering promise.

But to return to electro-metallurgy. In order to duplicate, it is required that the deposited metal shall have all the cohesive properties of the analogous plate. If, for instance, a deposit of copper were made upon a clean copper-plate, and cohesion was unobstructed, the result would be, particularly if the plate were elaborately engraved, a conglomerated and inseparable mass of metal. If cohesion were obstructed, so that the deposited metal could be readily separated from the plate, that obstruction might cause mutilation or total destruction of the plate. These were the considerations against which metallurgists in vain brought skill and science to bear; for in obviating one difficulty, the other would supervene. Mr. Smee proposed the use of that thin coating of air which adheres so closely to highly-polished metals, as may be observed in an attempt to wet a finely-polished knife-blade. But this process was finally pronounced uncertain and precarious. Air-bubbles could not be excluded; and the plates were therefore constantly liable to mutilation. The next invention, and that adopted in the ordnance department of Great Britain, was the coating of wax. The plate is oiled, and carefully wiped with soft bread. It is then heated to a certain temperature; and a cake of wax being pressed against its edge, will congeal, and flash over the plate in an almost imperceptible film. The plate is then wiped with a linen rag, free from lint; and being cooled, is ready for the vat. This process, although superior to Mr. Smee's, is by no means infallible, or even generally safe or accurate. The interposition of heterogeneous bodies to prevent impact cohesion of homogeneous bodies, proves as powerfully adhesive sometimes as that cohesion itself. This we see in the employment of cements; and wax is a primary ingredient in these compositions.

It was reserved for American genius to discover a method and an agent free from these objections. We shall not follow Professor Mathiot in the details of his plan. Suffice that for wax and the air coating he substitutes iodine—on the efficacy of which he remarks: "If but one ounce of copper be dissolved from a square foot of ordinary plate, a very heavy deposit of sediment is left, (sometimes five per cent.,) and the quantity of wax which may be applied to a plate, and fail to prevent sticking, is ten thousand times more than the quantity of iodine

flash of lightning, a complete image of the tree was found imprinted on her body. This is not the first instance of the kind.—*Newark Advertiser.*

A Philadelphia artist has caught up an idea which this incident suggests, that not only can objects with plain surfaces be transmitted to plates, but objects with uneven surfaces to canvas. He has instituted many experimental tests, and is sanguine that he will ultimately succeed in being enabled to announce still another chemical discovery.

which prevents it." His is indeed a valuable discovery. It will lead to a closer affinity between metallurgy and the fine arts, augment the production of copper-plate engravings by a series of duplication, and bring into play faculties of skill and intelligence hitherto unknown to the domain of physical and experimental knowledge. There is a peculiar analogy in the discoveries of Von Auer, Campbell, and Mathiot, inasmuch as, while they are distinct branches of the same art, their directions are so similar, and the desiderata they are well intended to supply, are so momentous and closely akin in their mechanical features. "To test," says Mr. Mathiot, "the effect of the chemical method of preventing adhesion on the sharpness of the engraved lines, an engraving was seven times successively transferred from plate to plate, when the closest inspection failed to show any inferiority of impressions from the last plate, as compared with those from the first." Electro-plated type and electro-duplicates of copper-plate engravings are used in many of the printing-offices of the United States, and embellish the pages of some of the most eminent magazines for pictorial illustration in the world.

The speculative mind did not, as we have remarked, confine itself to these scientific pursuits only. While some hastened to demonstrate the ascertained properties of electricity and their value to mechanical art, others plunged deeply into the more mathematical labyrinths of the discovery, and have sought to realize projects hardly less than utopian. Among such, were those who believed that an era had arrived from the date of which should be chronicled a complete revolution in commerce and navigation, in the intercourse of nations, in determining natural laws which had defied all previous theoretical and experimental knowledge, in the mode of ascertaining natural phenomena, and in the solution of questions involved in the mysteries of the physical creation. Morse had opened wide the door, and an unreserved welcome was extended for visionaries to enter, as well as philosophers and philanthropists. Even, it was said, a formidable curative of disease would be discovered in the electrical properties; the seas be explored by trained lightning, and made to yield up lost treasures; the earth be disembowelled by engines of handicraft, and the air traversed in electro-motive cars, as it is now cloven by the wires of the telegraph. Some ascended higher in the scale, and gave to electricity a tangible basis for the determination of all solar problems. Nay, it would be difficult to say, indeed, how far theory was carried, and how far it is still carried. Civilization seems at one bound, by a single discovery, to have vaulted over centuries, and the experiments and developments of ages, towards the zenith. "In addition to what electricity is now performing as a messenger,"

moralizes a paragraphist—"one swifter than those of the gods, and more reliable than the boasted Ariels of poets—when we come to consider that it can be drawn cheaply from its hiding-places, and made to propel land and water chariots, animate manufacturing mechanisms, become an agricultural laborer and a household drudge of all-work—we may safely say, the acme of human science has been attained, and the phases of time, and the employments of man, totally and eternally changed."

The knowledge now obtained, that soft iron could be rendered intensely magnetic by the galvanic or voltaic pile, led mechanicians to experiments in transmitting the power thus generated and recovered to motive machinery. Professors Henry and Page, of the United States, were among the first to turn their attention to the subject, and Henry was the first to bring the results of his labors to anything like a satisfactory conclusion. The principle in all the experiments made was much the same; that is, one or more magnets were located as fulcra, on which others, generating power, were fixed to turn. The period of this invention was not auspicious. The country was distracted by domestic strife, arising on the slavery question; and the government was slow in taking into consideration the merits of any scientific discovery which promised nothing towards conciliating political elements. We believe a committee of the national Senate was appointed to examine and report on the efficacy of Mr. Henry's projected motor; but Congress never took a step farther, and the whole thing is still in abeyance. This motive agent was of simple construction, but of vast energies. It was arranged with an electro-magnet in the manner of a balance-beam above the opposite poles of two permanent magnets, and kept up oscillation by alternately breaking and renewing the connection with the battery. Professor Page's plan* was to produce rotary motion by arranging two circles of magnets, one within the other, and with the faces of those which revolved so contrived as to sweep close round the immovable circle, but without touching it. A series of cut-offs regulated the supply and exclusion of the electric currents, so that each face of a revolving magnet was pulled towards each of the fixed ones, and as it passed, was pushed away to the next, and so on. The main objection with this, as it must be with all projects in which proximity instead of contact is sought, consisted in that unobviated difficulty, namely, that electro-power operates within a short space—that a power which is ascertained to be equal to 2000 pounds by cohesion, is reduced to comparatively nothing when removed to a proximity of only a few inches. Jacobi, in 1838, propelled a small shallop, on the river Neda, by electrical force. His speed with the stream was four miles an hour, and

* The author is in doubt whether Prof. P. was the original projector of this plan.

three against it. The mechanism consisted of four fixed electro-magnets, and the same number of revolving ones, to which the axle of the paddle-wheels was attached. His battery of sixty-four platinum plates, each with a surface of thirty-six square inches, was charged with nitric and sulphuric acids on Groove's plan. This attempt to supersede steam was pronounced a failure. But let us not forget that the wisest heads of the nation combined in pronouncing the effort to navigate by steam a complete abortion. This sage verdict was passed to the detriment of genius half a century ago; but, alas for their predictions, that "abortion" has proved an inestimable and practical blessing. That little or no advancement has been made in adapting electricity to navigation, we admit; but science has barely instituted a first attempt to convert it to marine purposes. The obstacle to be surmounted, we have adverted to. It is paramount; but is genius so beggared of resources, or science so completely exhausted of its secrets, that no remedy shall be found? So strange a proposition would sound like an absurdity. An electro-magnet, with its armature, is capable of a lifting power of 3000 pounds. By the interposition between the magnet and armature of a piece of tissue paper, that lifting power is reduced one-third; and the lifting power, by the removal of the armature a distance of two inches, is destroyed altogether. From this it will be seen how important is the question of space, and the proximity of the power-generating members. Recently a discovery was made, which has the facility of partially restoring the power so easily lost, which consists of a core of soft iron being made to play in the centre of a helix, like a piston-rod, but without the piston playing in its cylinder. An apparent increase of range is thus obtained, and a *stroke of more than twelve inches realized!* If this be an established fact, we have no reason to despair of seeing electrical mastodons of the ocean ploughing the surges of every sea.

But electricity has been beneficial to commerce in another sense. It has been made to subserve science in determining the law of tides, in basing calculations of latitudes and longitudes, and correcting the mariner's chart and the navigator's compass.

"Astronomy," says an anonymous writer, "in its present improved state, is too apt to be considered as a contemplation merely—a scientific contemplation, indeed, and a devout one also—but separated entirely from this working-day world, and belonging, like music and painting, to that class of knowledge whose domain is rather in the air than on the earth—in the ideal than in the actual world." These errors of deduction have been greatly modified by an improved exercise of common sense, aided by the genius of discovery, and the appliances of electrical science. Remarkable corrections have already been made in

the recording of celestial phenomena, by the use of electricity. One account has just reached us. The London *Court Journal*, of July 30, says: "Mr. Adams communicated to the Royal Society, at the closing meeting of their session in London, that he had discovered that the principle of Laplace's calculation of the secular motion of the moon is positively erroneous. This is a discovery which affects the whole range of lunar astronomy, seeing that all the calculations made on the assumption that the moon really was in the place assigned to her, are wrong. A staff of computers will therefore have to be set to work at the observatory, to recompute the lunar observations, avoiding the error, which amounts to about seven seconds. We shall then have the means of rectifying our Nautical Almanac, and of making it more accurate than ever; while those astronomers, and they are not a few, who have written about ancient eclipses, will have to go over their task again, and see what they make of it with the new principle. It was said, shortly after Mr. Adams' discovery of Neptune, that such a man would find other great works to do in astronomical science, and here we have an invaluable confirmation." In the observatory in which this discovery was made, the registry was kept by a Morse instrument, the same in mechanism and design as the instrument in use in the observatory at Washington, and which is being adopted in France, in Germany, and in Russia. A fillet of paper runs from the register, which is similar to that employed in ordinary telegraph writing. "The seconds are marked upon the fillet at intervals of about an inch—the circuit, without passing through the clock, being opened and closed by a delicate contrivance, called an interrupter, acted upon by the scapement, and the instants of observation are noted collaterally by break-circuit keys held by the observers. In the arrangement, the pens of all the instruments mark upon the same fillet, and the times of observation are easily read to hundredths of a second."* The subdivisions of time, so essential for accuracy, are here noted with almost incomprehensible exactness; while the agent which accomplishes the feat has the additional facility of dispatching the accuracy of its computations simultaneously throughout the land.

W. C. Bond, of the Cincinnati Observatory, has spent much time and labor in astronomical observations, in which he has been highly successful. In a late paper, he says: "The results which have been obtained by means of the electro-magnetic apparatus for recording astronomical observations, are quite satisfactory. This method of adapting the electric currents to the wants of the astronomer, and which has grown up under the fostering care of the Coast Survey, is purely American, and is acknowledged as such in Europe." Observers are well aware

* Maury.

of the difference between observations for right ascension and declination. In the first, the principle of repetition has been extensively introduced, with the best results; while, as to the other, reliance is mainly placed on the accuracy of a single bisection of the star observed on a single declination wire. Two years since, Professor Mitchel, also of the Cincinnati Observatory, executed a plan by which, on the same night, during one and the same transit, a star, or other heavenly body, could be observed on *ten* declination wires with all the precision due to a single observation by the old methods. "The observer," says Professor M., "is released from the necessity of reading a divided circle; and the position of his instrument, at the moment his star is bisected by the declination wire, is, by a single touch, engraved on metal and stereotyped, to be read and examined when convenience may permit. On the swiftest moving stars, *ten bisections* are readily accomplished and engraved in the space of a single minute of time, and at a maximum hour-angle of only thirty seconds of time." This is by the instrument invented by Professor M., for the measurement of declination, and which varies essentially from the old plan. He adds: "Thus far in the application of the new methods, my examinations have been confined to zones not exceeding twenty-five degrees in width. There is no difficulty, however, in extending these researches through the entire heavens, and comprehending, in the same night, the entire sweep of the meridian from north to south." After this, he proceeds to present some of the results tending to demonstrate the degree of precision already reached in the determination of the differences of declination. His attention had been exclusively directed to this one point: "Within what limits of error could the new apparatus repeat its own work on different nights on stars whose difference of declination varied from a second or two up to 25° or 30°?" Then ensues a narrative of the manner in which the records were made, and the results of the new process, by electro-magnetism. And the accuracy with which the magnetic plan accomplishes its work may be gathered from these few words: "A star was brought to bisection on a wire; and while thus located, the conducting wires were gently touched by the hand of the observer, and the instrument was seen to yield to every touch. A source of error was thus detected, of a minute character, indeed, but of vast importance where *tenths* of seconds of arc were the quantities under examination," &c.

It is impossible to estimate, with any degree of precision, the extent of the advantages which must accrue to astronomy and nautical science by the discovery of the electrical properties and the use of the telegraph. And in proportion as these are bene-

fited, commerce and international intercourse will be advanced, and securities against life and property be afforded. To find the longitude has been as much a provoking impossibility with mathematicians, as with mariners it has been a necessary and ardently-wished-for event. By the aid of electro-registers and other apparatus, how long will it be ere this desideratum is found? The Russian (*Pulkova*) work has been pronounced the most accurate in the world; yet here, in the United States, by a small and imperfect instrument, not yet introduced fully to science, that work has been surpassed. We shall merely advert to the fact, that government has done much recently in contributing to knowledge on the subjects of longitude and the galvanic wave-time. The late Sears C. Walker had these branches of science in charge, under the superintendence of the Coast Survey Bureau; and his sound experience and practical mind would have proved valuable acquisitions to the talent we already possess; but death has removed him from us. In his last report, dated September 30, 1851, he furnishes the result of three experiments on galvanic wave-time; and in a report of the same date, tabular statements of the progress made by him in determining longitudes. We allude to these additional facts, because it evinces a disposition to make the telegraph subservient to the purposes of nautical science in every available sense, and because it is an evidence that even an usually slow government has become convinced of the peculiar value of the properties of electricity as aids to astronomy and navigation.

Art. IV.—GROWTH, TRADE, AND MANUFACTURE OF COTTON.

No. III.*

DURING the period of the brilliant inventions and improvements in mechanical contrivances which have been described, our fathers had no time to devote to such pursuits.—They had other work on their hands of still *greater importance.* They were resisting the encroachments of tyranny, organizing military forces, promulgating a declaration of independence, preparing constitutions, and founding a republic. As soon as they had made good their declaration, perfected their constitution, and formed a more *perfect union,* (which we trust may last forever,) they turned their attention to the arts of peace.

Before describing the rise and progress of cotton manufac

* See September and October Nos., 1853.

tures in the United States, the introduction and growth of the raw material claims our attention.*

* The following synopsis of the history of the early introduction of cotton into the United States is given by a writer in the *Charleston Mercury*, which we quote entire :—

On this interesting subject is found the following information in Governor Seabrook's "Memoir on the Cotton Plant," published a few years ago :—"In a pamphlet of the date of 1666, entitled 'A Brief Description of the Province of Carolina, on the Coast of Florida,' the writer, in speaking of the Cape Fear settlements, made only two years before, says :—'They have indigo, tobacco very good, and cotton wool.' Dr. Hewitt, in his historical account of South Carolina and Georgia, while commenting on the introduction of silk into the former, and the products of the earth, for which premiums ought then to have been given to those who should bring to market the greatest quantities of them, alludes particularly to cotton, and after detailing the manner of planting it, remarks that this article, 'though not of importance enough to have occupied the whole attention of the colonists, might, nevertheless, in conjunction with other staples, have been rendered profitable and useful.'

"In Wilson's account of the 'Province of Carolina, in America,' published in 1682, it is stated that 'Cotton of the Cyprus and Malta sort grows well, and a good plenty of the seed is sent thither.' In Peter Purrey's description of the Province of Carolina, drawn up in Charleston in 1731, 'flax and cotton' are said to 'thrive admirably.' In the journal of Mrs. Pinckney, the mother of Gen. Thomas and Gen. Charles C. Pinckney, who, as Miss Lucas, when only eighteen years of age, was entrusted with the management of the planting interest of her father, the Governor of Antigua, is the following memorandum: 'July 1, 1739, wrote to my father to-day a very long letter on his plantation affairs—on the pains I had taken to bring the indigo, ginger, cotton, lucerne and casada to perfection, and that I had greater hopes from the indigo than any other.' 'June, 1741, wrote again to my father on the subject of indigo and cotton.'

"It is a well-authenticated fact, that in 1736, as far north as the thirty-ninth degree, cotton, 'on the garden scale,' was raised in the vicinity of Easton, in the county of Talbot, on the eastern shore of the Chesapeake Bay. About forty years afterwards, it was cultivated in St. Mary's County, Maryland, and in the northern county of Cape May, in New-Jersey; also in the county of Sussex, in Delaware.

"Among the exports of 'Charles Town,' from November, 1747, to November, 1748, are included seven bags of cotton wool, valued at £3 11s. 5d. per bag. In 1754, some cotton was again exported from South Carolina. In 1770, there were shipped to Liverpool three bales from New-York, four bales from Virginia and Maryland, and three bales from North Carolina. Before the Revolutionary War, Virginia exported, *communibus annis*, hemp, flax-seed, and cotton to the value of $8 000. In 1784, an American vessel that carried eight bags to Liverpool was seized, on the ground that so much cotton could not be produced in the United States. In 1785, 14 bags; in 1786, 6 bags; in 1787, 109 bags; in 1788, 389 bags; in 1789, 842 bags; and in 1790, 81 bags, were received in Europe from this country. Of these, 153 bags were sent directly, and a portion of the remainder by the way of Philadelphia and New-York, from Charleston. The first bag of cotton sold in South Carolina was purchased in 1784, by John Teasdale, from Bryan Cape, then a factor in Charleston. The first bag of the wool exported from that city to Liverpool arrived January 20, 1785, per Diana, and was consigned to Messrs. J. & J. Teasdale & Co."

Gov. Seabrook, in the pamphlet from which the above are extracts, after assigning very satisfactory reasons for his belief that the seed of short staple cotton was originally introduced into this country from the Mediterranean, says, "Peter Purrey is represented to have brought with him, among other seeds, that of cotton. This, and a paper of the same material, received by the Trustees for the settlement of Georgia, from Philip Miller, of Chelsea, England, it can scarcely be questioned, were from the Mediterranean." Mr. Wilson, already quoted, says expressly that the Carolina sort was from Cyprus and Malta. In a pamphlet entitled "American Husbandry," published in London in 1775, the writer remarks, that the "cotton

The precise circumstances under which the cultivation began in the Southern States, the time when and the place where it obtained first a permanent footing, are involved in much obscurity. The attention of intelligent persons must have been called to it before the commencement of the Revolutionary War, as we find the first Provincial Congress of South Carolina, held in January, 1775, recommended to the inhabitants to raise *cotton;* yet little practical attention was paid to their recommendation. A small quantity only was raised for domestic manufacture. Soon after the peace of 1783, its cultivation spread, and Georgia took the lead in its production. Among the planters who raised cotton upon a large scale (as it was then called), was Mr. Leake, of Savannah: in 1788 his crop was 5,000 pounds in the seed.

The commencement of the cultivation of sea-island cotton is more clearly ascertained.

Some of the colonists who adhered to the royal cause, had fled to the Bahama Islands; and learning that the inventions of machinery in England had caused a great demand for raw cotton, they were induced to turn their attention to its cultivation. The small island of Anguilla, in the Caribbean Sea, was celebrated for its excellent cotton, (the seed supposed to have come originally from Persia,) and from thence the Bahama settlers received their seed. By the year 1785, they had succeeded in raising cotton on two of the islands; from one of which Mr. Spalding, of Georgia, received a bag of cotton-seed: other Georgians also had similar contributions from their former acquaintances in that colony. From this seed all the sea-island cotton plants have been produced.

The species of cotton first introduced, known in commerce by the name of "upland," adheres to every part of its seed with great tenacity: the infinite delay and trouble attending the separation of the fibre from the seed, greatly retarded the extension of its growth. Among the early cultivators, the fibre was usually separated from the seed by the hands of laborers. Rollers and the bowstring were subsequently introduced, but the process with their assistance was exceedingly slow and expen-

cultivated in our colonies is of the Turkey kind. On the other hand, it must be supposed, from the language of their historian, that the Cape Fear emigrants, who began the growing of the gossypium only two years after they had established their settlements, were provided with seed from Barbadoes."

In reference to sea-island or black-seed cotton, the writer states that it "began to be raised in Georgia in experimental quantities, in 1786." The native place of the seed is believed to be Persia. It is designated the Persian cotton by Bryan Edwards, and is so called in the West Indies, and by the merchants of England. The seed grown in this country came from the Bahama Islands, where it had been introduced by the Board of Trade, from Anguilla, a small island in the Caribbean Sea, and was sent by Mr. Tatnall, then Surveyor-General of the Bahamas, Col. Relsell, and others, to Governor Tatnall, James Spalding, Richard Leake, and Alexander Bisset, all of Georgia.

sive. From this process the upland cotton took the name in the English market of "Bowed Georgia," and it is now sometimes quoted by that name, although the instrument has been entirely out of use more than fifty years.

Unless some other means could be devised for preparing the cotton for market, all saw that the amount produced must be very small.

The machine for effecting this desirable object was invented by ELI WHITNEY, a native of Westborough, Mass. He received his education at Yale College, and graduated in the autumn of 1792. Soon after this he went to Georgia in quest of fortune, taking with him a New-England boy's usual capital, consisting of a good education, a jack-knife, and self-reliance. While residing in that state in the family of Mrs. Green, widow of the late General Green, the cultivation of cotton was exciting universal interest in that section of country. Mr. Whitney often heard gentlemen at the house of this lady express their regrets at the want of some economical method of preparing it for market. With a prophetic perception of its invaluable importance, he went to work to invent a machine that should answer the purpose. After many weeks of intense application, his machine was completed; and the SAW-GIN was produced. This was in the latter part of the winter of 1793.* Unlike most other important inventions, this machine does not owe its useful qualities to successive improvements of others, but came forth perfect from the hands of the inventor, and remains in all its essential parts precisely as Mr. Whitney left it. No invention of labor-saving machines has produced as important results as this. The agricultural resources of the cotton-growing states "sprang forth with newness of life," and the United States, which before this had not been known as a cotton-growing country, immediately took the lead in the production of this great staple. The cheapness with which the material could now be produced greatly increased the demand, and this country has for many years furnished more than four-fifths of the cotton used by the civilized world.† It is painful to follow further the personal history of

* The following well-authenticated incident in the life of Mr. Whitney, as related by himself to the father of a highly respectable gentleman, is well worth preserving, as a striking illustration of the fact that the most important results often originate in the most trivial and accidental circumstances. Mr. Whitney stated that while walking for exercise one day after dinner, with a tooth-pick in his hand, and being in deep meditation upon the project of constructing an instrument for separating cotton from the seed, he picked up a boll of cotton which accidentally lay upon the ground before him; and in trying the tenacity of the fibre to the seed, he mechanically separated the one from the other with his tooth-pick. The thought flashed upon his mind, that a proper arrangement of *metallic points*, so as to be brought in contact with the fibre to the exclusion of the seed, would effect his object. This was his cue, and the invention of the *Saw-gin* was the result.

† The following table, derived from Burns' statistics of the cotton trade, exhibits the proportion and actual amounts of cotton annually supplied to

this great man. Although his invention benefited his country untold millions, yet he received no adequate compensation. Though depressed by pecuniary embarrassments, no public reward, like the English grants to their successful inventors, soothed the evening of his life. He is dead. No national monument has been erected to his memory expressive of the gratitude of his countrymen for the transcendent benefit his genius has conferred upon them; but private affection has placed upon his tomb, at New-Haven, in Connecticut, this inscription:

ELI WHITNEY,

THE INVENTOR OF THE COTTON-GIN.

OF USEFUL SCIENCE AND ARTS, THE EFFICIENT PATRON AND IMPROVER.

IN THE SOCIAL RELATIONS OF LIFE, A MODEL OF EXCELLENCE.

WHILE PRIVATE AFFECTION WEEPS AT HIS TOMB, HIS COUNTRY HONORS HIS MEMORY.

BORN DECEMBER 8TH, 1765.
DIED JANUARY 8TH, 1825.

In my researches into the exports of cotton, I find it stated, but am not certain of the authority, that in the year 1770 there were shipped to Liverpool three bales of cotton from New-York, four from Virginia and Maryland, and three barrels from North Carolina; though in 1784, the year after the close of the Revolutionary War, a vessel that carried eight bales of cotton from the United States to Liverpool, was seized in that port on the ground that so large a quantity of cotton could not be the produce of the United States.* In a British work, I find the following statement: Cotton imported from America in 1785, as follows—one bag per Diana, from Charlestown; one per Tonyn, from New-York; three per Grange, from Philadelphia. Part of these cottons were seized in Liverpool, under the impression

England from different parts of the world, on the average of thirteen years, ending 1846.

	Per cent. of the total supply.	lbs. supplied.
From the United States	79¼	380,568,958
" Brazil	4½	21,462,150
" Egypt	2½	12,123,790
" West Indies	1	4,432,777
" East Indies	12¾	61,578,371
	100.	480,166,046

* I have been informed by Gen. Duff Green, that the first shipment of cotton from the United States to England was from Savannah, by a person named Miller. It was brought from the interior of Georgia in a pocket-handkerchief by a woman, and given in exchange for a pound of copperas and a few pins. Mr. Miller was living a few years ago, and well known in Savannah as "*Cotton Miller.*"

that cotton was not the produce of the United States. From an official table prepared by N. Sargent, Esq., Register of the Treasury Department, we find the value of cotton exported from the 1st of October, 1789, to 30th June, 1851, to be as follows:

STATEMENT OF THE VALUE OF COTTON EXPORTED FROM THE UNITED STATES FROM THE 1ST OCTOBER, 1789, TO 30TH JUNE, 1851.

Years ending 30th Sept.	COTTON.	Years ending 30th Sept.	COTTON.	Years ending 30th Sept.	COTTON.
1790....	$42,285	1811.....	$9,652,000	1832....	$31,724,682
1791....	52,000	1812.....	3,080,000	1833....	36.191,105
1792....	51,470	1813.....	2,324,000	1834....	49,448,402
1793....	160,000	1814.....	2,683,000	1835....	64,661,577
1794....	500,000	1815.....	17,529,000	1836....	71,284,925
1795....	2,250,000	1816.....	24,106,000	1837....	63,240,102
1796....	2,200,000	1817.....	22,628,000	1838....	61,556,811
1797....	1,250,000	1818.....	31,334,258	1839....	61,238,982
1798....	3,500,000	1819.....	21,081,679	1840....	63,870,307
1799....	4,100,000	1820.....	22,308,667	1841....	54,330.341
1800....	5,000,000	1821.....	20,157,484	1842....	47,593.464
1801....	9,100,000	1822.....	24,035,058	9 mos. to June 30, 1843	49,119,806
1802....	5,250,000	1823.....	20,445,520	Yrs. end'g June 30.	
1803....	7,920,000	1824.....	21,947,401	1844....	51,063,501
1804....	7,650,000	1825.....	36,846,649	1845....	51,739,643
1805....	9,445,500	1826.....	25,025,214	1846....	42,767,341
1806....	8,332,000	1827.....	29.359,545	1847....	53.415,848
1807....	14,232,000	1828.....	22,487,229	1848....	61,998,294
1808....	2,221,000	1829.....	26,575,311	1849....	66,396,967
1809....	8,815,000	1830.....	29,674,883	1850....	71,984,616
1810....	15,108,000	1831.....	25,289,492	1851....	112,315,317

From this table we see that the total declared value of the exports of raw cotton from the United States, from 1790 to 1851 inclusive, amounts to the immense sum of *one thousand seven hundred and eleven million, six hundred and ninety-one thousand, six hundred and seventy-six dollars* ($1,711,691,676), and this is exclusive of the large quantity that has been consumed in our own country. There is nothing to be compared to this in the history of commerce or in the annals of human industry. *This, perhaps, is not the proper place or occasion to indulge in the reflection, as to what the effect upon the resources and development of our own country would have been, had its circumstances been such, or could the policy of the government have been so shaped, that instead of exporting barely the raw material, it could have had its value enhanced by* HOME LABOR, *by manufacturing it into cloth, or simply into yarn, before exportation.*

The capital invested in the *culture* of cotton, which has produced the foregoing extraordinary results, was estimated by the late Hon. Levi Woodbury, in his very able report, as Secretary of the Treasury, made in February, 1836, at $740,000,000

permanent, and $30,000,000 floating. Assuming this calculation to be correct, (and the value of lands, &c., and the produce per acre, do not now vary materially from his estimate at that time,) we find that the total amount of capital invested at the present time in this branch of the agricultural industry of the United States cannot vary much from $1,500,000,000.*

The first mention we find of American manufactures for sale, is from an advertisement in the *Pennsylvania Gazette*, April 3d, 1782, by Samuel Wetherell, who advertised jeans, fustians, everlastings, coatings, &c., to be sold *at his manufactory*, in South Alley, between Market and Arch streets, Philadelphia.

Machinery, other than the one-thread wheel, common loom and hand cards, had not then come into use. In 1786, Mr. Orr, of East Bridgewater, Massachusetts, employed Robert and Alexander Barr, from Scotland, to construct carding, spinning and roving machines. On the 16th of November, 1786, the Legislature of Massachusetts, to encourage the machinists, made them a grant of £200, lawful money. In March, 1787, Thomas Somers (an English midshipman) also constructed a model of a spinning jenny, for which he received £20, lawful money, from the state government. The above machines and model, remained in Mr. Orr's possession, for the inspection of all disposed to see them; and he was requested by the General Court to exhit them, and to give all explanations and information in his power respecting them. It is believed that these machines were the first made in the United States. Several machines from these models were made for different persons, and used in private houses.

The first cotton factory established in the United States, was at Beverly, in Mass., about 17 miles from Boston. It was organized in 1787, with (as is stated) a large capital. It continued in operation about fifteen years, making corduroys, bed-

* A recent writer says of this report of the late Secretary, that in making his calculations he estimated the number of acres in cotton at 2,000,000, and the annual product at 300 lbs. net cotton per acre. This is entirely too large an estimate of the yield per acre; and consequently he made the number of acres too small, and the production too large. By the best calculations from the census of 1840, and other sources, the writer alluded to above estimates the capital employed in the production of cotton as follows:—

1,200,000 slaves, at $500 each, is	$600,000,000
4,500,000 acres of land, at $10 per acre,	45,000,000
14,000,000 acres of land, in timber, pasture, &c., at $3 per acre,	42,000,000
6,300,000 acres of land, in grain, at $10,	63,000,000
400,000 mules and horses, at $100 each,	40,000,000
4,500,000 hogs and sheep, at $1 each,	4,500,000
300,000 cattle, at $5 each,	1,500,000
500,000 ploughs, at $2 each,	1,000,000
Wagons, and other plantation implements, &c.	1,000,000
	$798,000,000

There does not, however, appear to be any data that can be relied on to make an accurate calculation on this subject.—(See De Bow's Review, 1846.)

tickings, and cotton velvets. The warps used were probably of linen. Yet the business was not profitable—the loss having been as great as ninety cents on the dollar. General Washington visited this establishment on his tour through the country in 1789. Great interest was excited throughout all the Northern and Eastern States on the subject of manufactures. No models of machinery used in England could be procured, as the English government, *with a jealous care for their own interests*, had prohibited, under heavy penalties, the exportation of any machines, or models, or drawings of them. Many attempts were made to procure models, without success. Tench Coxe, one of the earliest, ablest, and most devoted friends of American manufactures, engaged a person to send him from London complete brass models of Arkwright's patents. The machinery was completed and packed, but was detected by the custom-house officers, and forfeited.

All attempts to introduce the Arkwright machinery had proved unsuccessful. But the cupidity of the British government, aided by the utmost vigilance of its officers, could not prevent its introduction. Mr. Samuel Slater, who had served a regular apprenticeship to the cotton-spinning business, under Sir Richard Arkwright's partner, Mr. Strutt, arrived in New-York in the month of November, 1789. In a letter, written by himself the 2d of December following, to Moses Brown, of Providence, R. I., he says, "A few days ago, I was informed you wanted a manager of cotton spinning. If you are not provided for, I should be glad to serve you, though I am in the New-York manufactory. But we have but one card, two machines and two spinning jennies, which I think are not worth using. *My intention is to erect a perpetual carding and spinning*" (meaning Arkwright's patents). The answer to this letter was such as to induce him to go to Providence; and in January, 1790, he made an arrangement with Messrs. Almy & Brown, of that city, to commence preparation for spinning cotton at Pawtucket. There he commenced making machinery, principally with his own hands; and on the twentieth of the next December, he started three cards, machines for drawing and roving, and seventy-two spindles. *These were the first Arkwright machines put in operation in this country; and the credit* of introducing them belongs to Samuel Slater. He had no models or drawings to aid him in the construction of the machines, having been deterred from bringing them, for fear of detection by the British government.

Some of Mr. Slater's first yarn, and some of the first cloth made in America *entirely of cotton*, was sent to the Secretary of the Treasury, the 15th of October, 1791.

Although they had some difficulty at first in disposing of their yarn, their business slowly increased; and, somewhere

about 1795, Mr. Slater, in company with Mr. Oziel Wilkinson, built a small mill on the Massachusetts side of the river, at Pawtucket, *which was the first cotton factory in Massachusetts, with machinery on the Arkwright principle.* Their business continuing prosperous, and Mr. Slater's brother having arrived from England and brought a knowledge of the recent improvements of the English spinners, Almy and Brown and the Messrs. Slaters turned their attention to a more extended investment in cotton spinning; and in 1806, the village of Slatersville, R. I., was projected; a large factory was erected, and they commenced spinning in the spring of 1807.

We have not time, on this occasion, to follow the personal history of Mr. Slater. The following obituary notice is copied from one of the periodicals of the time:—

"April 20th, 1835, died, at Webster, Mass., aged 67, Samuel Slater, long known as an enterprising and respected citizen of Rhode Island, *and the father of the cotton manufactures of this country*, in which he acquired a great estate. The first cotton manufactory in the United States was built by Mr. Slater at Pawtucket, R. I., which was standing and in operation at the time of his death."*

Small factories spread in Rhode Island about the year 1807, and improvements began to be introduced by American artisans. As early as 1808, $80,000 was invested in the Globe factory, Philadelphia. The Arkwright machinery was introduced very early at Copp's Creek and at Kirk's Mill, in Delaware.

But other sections of the country were also turning their attention to this important business.

Alexander Hamilton early saw the importance of manufactures to the country, and in his able report on the subject, made during Washington's administration, gave a sound tone to the public mind. *His memory should ever be held sacred by American manufacturers, as one of their earliest, ablest, and best friends.*

* An attempt to manufacture cotton was made at Derby, in Connecticut, under the patronage of Col. Humphreys, late minister to Spain.

One at or near Hurlgate, N. Y., under the patronage of Mr. Livingston, was commenced, but failed and was abandoned. It is believed nearly all the cotton factories in this country, from 1791 to 1805, were built under the direction of men who had learned the art or skill of building machinery in Mr. Slater's employ.

Mr. Slater used to spin both warp and filling on the water-frame, up to 1803. Mules for spinning filling had not then been introduced. The cotton used to be put out to poor families in the country, and whipped on cords, stretched on a small frame about three feet square, and the motes and specks were picked out by hand, at from four to six cents per pound, as it might be for cleanness.

Mr. Slater used to work cotton from Cayenne, Surinam and Hispaniola, and made first quality of yarn. Some time after, when short cotton began to be used, he mixed about one-third: he called the yarn of such second quality, making 15 cents per lb. difference. Thus, while number 12 was 84 cents of 2d quality, number 12 of first quality was 99 cents per pound.—*Memoir of Slater*, pp. 106-7.

In the early part of the year 1791, *on his recommendation, and by his active and influential exertions*, a number of spirited individuals of New-York, New-Jersey, and Pennsylvania, associated themselves for the purpose of "establishing useful manufactures," by the subscription of a capital of more than $200,000. The general object of the association was to lay the foundation of a great emporium of manufactures, *but their more immediate object was the manufacture of cotton cloths.*

Having resolved to establish themselves in New-Jersey, the contributors were incorporated by the Legislature of the State on the 2d of November, 1791, by an act authorizing a capital stock of one million of dollars, with the right to acquire and hold property to the amount of four millions, and the power to improve the navigation of the rivers, make canals for the trade of the principal site of their works, and to raise by way of lottery one hundred thousand dollars. The act of incorporation, *which was drawn or revised by Mr. Hamilton*, also gave a city charter, with jurisdiction over a tract of six square miles.

After its organization, the society advertised their desire to purchase a suitable site for their city, with requisite water power, in any part of New-Jersey. They received proposals from the "West Jersey Associates," from "South River," "Perth Amboy," "Millstone," "Bull's Falls," the Little Falls of the Passaic, and from the inhabitants of the Great Falls of that river; and in May, 1792, they selected the latter place as the principal site of their proposed operations; giving to their town the name of Paterson, in honor of Governor William Paterson, who had signed their charter. At a meeting of the directors, on the 4th of July, 1792, appropriations were made for building factories, machine shops, and shops for calico-printing and weaving. A raceway was directed to be made, for bringing water from above the falls to the proposed mills. Unfortunately, the direction of these works was given to a French engineer, whose magnificent projects and reckless expenditures uselessly spent a large sum of money for the company.

In January, 1793, Peter Colt, Esq., of Hartford, then Comptroller of the State of Connecticut, was appointed general superintendent of the company. The French engineer resigned; and Mr. Colt, thus in sole charge of the works, abandoned the magnificent projects of his predecessor, completed the raceway, conducting the water to the first factory erected by the society. This factory was finished in 1794, when cotton yarn was spun in the mill. Yarn had been spun at this place the preceding year, by machinery moved by oxen. In 1794, calico shawls and other cotton goods were printed; but, owing to a combination of causes, the company resolved, in 1796, to abandon the manufacture, and discharged their workmen. No part of the failure

of the enterprise was attributed to Mr. Colt; as the directors, on closing their concerns, unanimously "returned him their thanks for his industry, care and prudence in the management of their affairs, being fully sensible that the failure of the objects of the society was from causes not in his power, or that of any other man, to prevent."

The cotton mill of the company was leased to individuals until 1807, when it was accidentally burned down. In 1801, a mill-seat was leased to Mr. Charles Kinsey; in 1807, a second; and in 1811, a third, to other persons; and between 1812 and 1814 several others were sold or leased. In 1814, Mr. Roswell L. Colt, the present governor of the society, purchased at a depreciated price a large proportion of the shares, and reanimated the association. From this period, the growth of Paterson has been steady, except in seasons of general or manufacturing depression.

Although out of the regular chronological order, we will mention here, that Mr. John Colt, a son of Peter Colt, Esq., and a gentleman who, by his education, sterling integrity, high sense of honor, and polished manners, is an honor to American manufacturers, commenced making *cotton duck*, in Paterson, the 7th of February, 1822. Cotton duck had been made in this country before, at Baltimore, and also some in New-England; but the yarn was not doubled and twisted, and had to be heavily starched to prevent chafing in the reed, which rendered it nearly useless for sails, from its liability to mildew; but Mr. John Colt made the first cotton duck of doubled and twisted yarn, without starch or any kind of dressing, and also the first that was woven on power looms. The first year, he made about seventy pieces in this improved manner. In 1823, he made 201 pieces. The weaving was done by hand looms. On the 4th of March, 1824, the first piece of cotton duck ever woven upon a power loom was produced. The article was found to be of excellent quality, and soon began to be extensively used for sails. Mr. Colt went on steadily increasing the manufacture. From 1826 to 1828, he averaged from five to six thousand pieces per annum. In 1831, he increased to about 9,000 pieces, and has carried the manufacture as high as 12,000 pieces per annum. There are also quantities of cotton duck made in New-England, Maryland, &c.; but the article produced by Mr. Colt has always maintained its superiority, and commanded the highest price in the market.

The English have declined to use cotton duck for sails; and one ship-builder refused to accept a suit of sails gratis, as he was satisfied it would not answer the purpose. *Perhaps they have obtained some light on this subject, as the sails of the* YACHT AMERICA, *with which they became acquainted in* 1851, *were made of the ordinary duck from Mr. Colt's mill.*

But, to return to the regular chronological order of events, we find that in 1807 there were in Rhode Island, Massachusetts and Connecticut, fifteen mills, with 8,000 spindles, producing about 300,000 pounds of yarn annually. By a report made to the government in 1810, it appears that eighty-seven additional mills had been erected by the end of 1809, of which sixty-two were then in operation by horse and water power, running 31,000 spindles. Upon the breaking out of the war of 1812, there were in Rhode Island thirty-three cotton factories, with 30,663 spindles, and in Massachusetts there were twenty mills, with 17,371 spindles. The yarn spun in these factories was woven by individuals upon hand-looms. At this time the country received nearly all its cotton cloth from Great Britain and the East Indies. In 1807 and 1808, there were imported from Calcutta *fifty-three millions* of yards, principally of coarse cotton goods, and worth, as prices then were, over *twelve millions of dollars*. In 1810, there were made *in all the factories* in the United States, as appears by the return of the Hon. Albert Gallatin, then Secretary of the Treasury, *only eight hundred and fifty-six thousand six hundred and forty-five yards of cotton cloth*, viz.: in Rhode Island, 735,319; Massachusetts, 36,000; Vermont, 2,500; New Jersey, 17,500; Pennsylvania, 65,326. The whole number of yards made in the United States in that year was sixteen million five hundred and eighty-one thousand two hundred and ninety-nine; of this, 15,724,654 were of family manufacture. So imperfect was the machinery then in use, that the weaving alone cost *more than double* the whole process after the introduction of the power-loom.

We now arrive at an interesting period in the history of cotton manufactures in our own country. The *large enterprises* that had been attempted were premature. The Beverly Company had lost its capital. The "Society of Useful Manufactures," at Paterson, had suspended operations. We find but few who kept steadily increasing, but the increase was very slow. Those of Rhode Island, under the able lead of Mr. Slater and his associates, continued to make progress. The wars which grew out of the French Revolution had thrown the carrying trade in a great measure into the hands of our merchants. It was very profitable, and the enterprise and capital of the country was mainly directed in that channel.

But with the war of 1812 came a different state of affairs. Our commerce for the time was nearly destroyed, and our foreign trade paralyzed. A positive necessity existed for domestic manufactures, and the men were not wanting who were equal to the emergency. To Francis Cabot Lowell and Patrick Tracy Jackson, both of Boston, Mass., and the able men that were associated with them, we are indebted for the establishment of the

cotton manufacrure on a scale so ample that we are enabled to supply a large portion of our consumption, and to compete successfully in distant foreign markets with the wealthiest nations of the earth.

Shortly after the commencement of the war, Mr. Lowell, who had recently returned from England, impressed with the necessity, and convinced of its practicability, proposed to Mr. Jackson to make the experiment on an ample scale. Great were the difficulties that beset the new undertaking. The state of war prevented any communication with England; not even books and designs, much less models, could be procured. The structure of the machinery, the very tools of the machine shop, the arrangement of the mill—all these were to be, as it were, re-invented. But men had got hold of the business now who, relying upon their own great talents, aided by the improvements in machinery which had been introduced by Mr. Slater and others, were capable of surmounting every obstacle. The first object to be accomplished was to procure a power-loom. To obtain one from England was impossible; and although there were many patents for such machines in our patent office, not one had yet exhibited sufficient merit to be adopted into general use. Under these circumstances, but one resource remained, to contrive one themselves; and this they immediately set about. After numerous experiments and failures, they at last succeeded, in the autumn of 1812, in producing a model, which they thought so well of, as to be willing to make preparations for putting up a mill for weaving cotton cloth.

It was now necessary to procure the assistance of a practical mechanic to aid in the construction of the machinery, and they had the good fortune to secure the services of Mr. Paul Moody. The project had been hitherto exclusively for a weaving mill, to do by power what had before been done by hand loom. But it was ascertained that it would be more economical to spin the yarn than to buy it. A water power had been procured at Waltham, Mass., and associating with themselves some of the wealthy gentlemen of Boston, they put up a mill of about 1,700 spindles, with the necessary preparation, and power looms of their own contrivance, sufficient to weave their yarn. The mill was completed late in 1813. *This was the first manufacturing establishment in the world, that combined all the operations necessary for converting the raw cotton into finished cloth.*

The mills previously erected in this country were for spinning only; and in England, although power looms had been introduced, they were used in separate establishments, by persons who purchased their yarn from the spinners.

Under the able management of the projectors, the business proved eminently successful, and was extended to the full

capacity of the water power at Waltham. Although the first suggestions, and many of the early plans, for the new business had been furnished by Mr. Lowell, Mr. Jackson devoted the most labor and time in conducting it.

Great interest had also been excited in other sections of the country, on the subject of manufacturing, during the war. Several mills had been erected in the State of New-York, and elsewhere, and a large amount of capital (considering the wealth of the country at the time) invested. Upon the close of the war with Great Britain, and the opening of the foreign trade, this interest received a severe shock, and was much embarrassed by excessive importations of foreign goods.

Mr. Lowell, whose profound knowledge of the business and eminent abilities peculiarily fitted him to impart correct information to others, repaired to Washington, in the winter of 1816; and in confidential intercourse with some of the leading members of Congress, he fixed their attention on the importance, the prospects, and the dangers of the cotton manufacture. The Middle States, under the lead of Pennsylvania, were strong in the manufacturing interest. The West was about equally divided. The New-England States, attached, from the settlement of the country, to commercial and navigating pursuits, were less disposed to embark in the new policy, which was thought adverse to some branches of foreign trade, and particularly to the trade with India, from which the supply of coarse cottons was principally derived. The Southern States, and particularly South Carolina, then represented by several gentlemen of distinguished ability, held the balance between the rival interests. After a protracted discussion, marked by eminent ability on both sides, the South, under the able lead of the distinguished and lamented John C. Calhoun, gave their influence to the new measure, and the tariff of 1816 was established. This was the first legislative enactment recognizing the existence of the cotton manufacture in this country.

But the earthly efforts of Mr. Lowell were drawing to a close. He died in 1817, at the early age of forty-three. "Few men have accomplished as much to make their names known to advantage and remembered with gratitude," as Francis Cabot Lowell.

After the passage of the law of 1816, the business continued to increase. Mr. Jackson continued to manage the Waltham Company, and began, as early as 1820, to look around for some new locality where the business might be extended. In 1821, Mr. Ezra Worthen suggested to Mr. Jackson that the Pawtucket Canal, at Chelmsford, would afford a fine location for large manufacturing establishments, and that probably a privilege might be purchased of its proprietors. To the compre-

hensive mind of Mr. Jackson the hint suggested a much more stupendous project,—nothing less than to possess himself of the whole power of the Merrimack River at that place, known as the "Pawtucket Falls.' Relying on his own talent and resolution, he set about this task at his own risk; and it was not until he had accomplished all that was material to his purpose, by purchasing the whole stock in the canal, and all the farms on both sides of the river, which controlled the water power, that he offered a share in the project to the proprietors of the Waltham Company and other persons whom it was thought desirable to interest in the scheme. This offer was eagerly accepted. Extensive additions were subsequently made, and in honor of his late lamented friend, the new town was named Lowell. On the 6th of February, 1822, the purchasers of the above-named property were incorporated as the "Merrimack Manufacturing Company," and vigorous measures were immediately adopted to carry out their plans. The personal superintendence of the business was confided to the late Kirk Boot, Esq. The foundation of the first mill was laid in 1822, and the first cloth produced in November, 1823. Mr. Ezra Worthen was appointed superintendent of the manufacturing department. He barely lived long enough to see the first commencement of the business. He died June 18th, 1824. In 1825, a reorganization of the company took place. It was found that there were mill privileges enough for several independent companies. It was deemed expedient that one company should have charge of the disposal of the land and water power, and of the furnishing of machinery, without entering into the manufacture of cotton. The necessary acts were passed by the Legislature, giving the privileges above described to the Locks and Canal Company. The price of the shares in this company under the reorganization, was $500 each; the annual dividends were large, and when at last it was thought expedient (about 1845) to close the affairs of the corporation, the stockholders received of capital nearly $1,600 per share.

We cannot at this time enter into a detailed history of the growth of this place; after the establishment of the Merrimack Company, others soon followed. Its advancement in wealth and all the elements of civilization has been singularly rapid. In 1826, the population was 2,500; in 1840, 20,796; and in 1850 it was 33,385. In 1850, there were nine companies, owning thirty-four factories engaged in manufacturing cotton goods, employing a capital of eleven million five hundred thousand dollars; with 305,004 spindles, 19,569 looms, besides bleaching, dyeing and printing works, employing 7,524 female and 2,427 male operatives. But we will not go further into the statistics of Lowell—merely adding that there are manufacturing interests in that city of large amounts, other than cotton. There is, how-

ever, one other interesting fact. There are two banks for savings at Lowell, one the "Lowell," and the other the "City." The Lowell Bank had on deposit, the first Saturday in November, 1850, from 4,609 depositors, $746,628 12 cents. The City Bank at the same time had on deposit from 615 depositors, $75,970 51 cents. The operatives in the mills are the principal depositors in these banks.

Great attention is paid to the physical, intellectual and moral welfare of the inhabitants and operatives in the mills. A large hospital, under able management, has been established. There is a valuable library of 7,000 volumes belonging to the city, to which any one can have access by paying fifty cents per annum; and the Lowell Institute, which has for its object the management of a course of lectures delivered every winter. Excellent schools are also maintained. In 1840, a paper called the "Lowell Offering" appeared, made up entirely of original matter written by the operatives. This periodical has obtained an extensive reputation. In 1844, selections from it were published in England under the significant title of "Mind among the Spindles." In 1845, there were twenty-three regularly constituted religious societies. They have erected twenty-one churches, at a cost of more than three hundred thousand dollars. Connected with these societies, there were over six thousand Sunday-school pupils and teachers; all this was accomplished in the short period of twenty-seven years. An unsettled territory has been covered with substantial edifices, mills, stores, churches, blocks of houses, the prosperous homes of nearly 35,000 people. A result highly creditable to the men who took the lead in this enterprise, has been the reward of this liberal display of their wisdom and humanity. Aided and encouraged by these advantages, the morals of the operatives in the factories have been cherished and preserved, and their intellectual and physical energies strengthened and improved. The superior intelligence and efficiency of the operatives of Lowell over those employed in the factories of the old world, is as manifest as it is gratifying.

The intimate connection between a high standard of morality and intellectual and physical efficiency, deserves profound consideration. It may be the turning point in our favor in our manufacturing rivalry with other nations. It gives us great pleasure to be able to say that Lowell is not alone entitled to this high commendation. The founders of the factories in Rhode Island and Paterson early saw and justly appreciated the value of a high standard of morality among their operatives, and have been unwearied in their efforts to cherish and sustain it. These leading examples have imparted a healthy tone of moral feeling in relation to these establishments, as they have been, and still are, extending throughout our country.

It would be gratifying to follow the personal history of Mr. Jackson. It is well worth studying as an example of boldness of conception, great foresight, a perseverance that nothing could check, triumphing over all obstacles, and rising superior to difficulties, blended with the strictest honor and integrity, that always sustained him.

Art. V.—SOUTHERN SLAVERY AND ITS ASSAILANTS.

THE KEY TO UNCLE TOM'S CABIN.

Mrs. Stowe and her books together have sunk so low at last that it is rather an act of charity to make reference to them before our readers. Though we rather consider the subject exhausted, as there is interest and ability in the annexed paper, furnished by a lady of Georgia, we cannot feel at liberty to exclude it. She has managed this argument for the South with skill, and her contribution will be widely read. Up to this time we have seen no other analysis and examination of the "Key," which followed in such ponderous (and rather unsaleable) proportions close upon the heels of Uncle Tom.—EDITOR.

IN writing her Key, Mrs. Stowe seems to have been aware that the public would expect from her not only a verification of incidents which she says were essentially true, but also, in so great, so vehement an accusation against a people, some proof that she was not unfairly arguing from the abuse to the use, from the exception to the rule. The Key is divided into four parts. Part First contains simply a sort of verification of her characters, and beyond certain incidental statements and arguments discloses nothing particularly to be discussed. Parts Third and Fourth contain her examination of the slave code, with certain trials under it, and embody the chief force of her argument. We also find in it her attack on the arguments for slavery usually drawn from the Old Testament. Part Fourth contains a view of the action of the Church on the subject of slavery, with an attempt to prove the Epistle to Philemon an abolition document, and winds up by an effort to prove that the spirit of the Gospel commands us instantly to free our slaves.

In reviewing a book, it is best to have distinctly before the mind the full bearing and force of it; so we will endeavor to state succinctly what we conceive to be the general plan of Mrs. Stowe's reasoning.

Her general argument places the matter upon a wrong issue, and in reality makes two counts on one indictment. While she does not directly say that we are responsible for the act of the British government in bringing slaves into this country, she implies that we originated it, and makes us responsible for its continuance, by making it appear that in giving up property so

unjustly acquired, we should make no sacrifice, and incur no inconvenience beyond the loss of the slaves' pecuniary value. These views, so easily controverted if directly put, she has so artfully involved in the book, that any one whose ideas were derived solely from it, would imagine they were so plain that all parties had agreed to take them for granted, while he would be apt to think the suggestion that there could be any disadvantage to the negroes in emancipation, could only come from a Bedlamite. By thus artfully shifting the ground of our defence from slavery made necessary by the force of circumstances to slavery in the abstract, she takes from us the legitimate defence of many apparent violations of right as necessitated by that force of circumstance, and she makes slavery really the creature of our own convenience and pleasure, pursued with total disregard to the good or rights of the negro. And though, when thus placed before us, the sophistry is so evident, the true state of the case so plain, that it seems quite unnecessary directly to confute it, still, by skilfully evading the direct enunciation of these false premises, she has contrived to render quite plausible a great many wrong conclusions.

Besides this general argument or one count of the indictment, she has made another by examining the subject in detail. In reviewing the slave code, she pronounces it both incomplete and inefficient, and so, quite in consonance with her theory that it is the creature of our own selfishness, and though it contains a great many protective enactments totally at war with that action, she attempts to destroy the force of this evidence of our desire to be humane, by making it appear that by the protective enactments, we simply intended to deceive the world as to our total inhumanity and selfishness, and that we have so artfully contrived the matter, that by a perfectly legitimate construction of these protective laws, they mean absolutely nothing. That of the humane class of Southerners, those who are not blinded by prejudice see this, and are abolitionists at heart. The rest of the humane class, feeling their own comfort and happiness involved in the well-being of their slaves, are too weak to see the drift of the vast mass, who, whether their eyes are open or closed to the total inhumanity and selfishness of the system, are themselves so selfish they do not care for it.

Mrs. Stowe says directly she does not confound slaveholders with the system in her hatred of it; but so long as she thus misrepresents them, they may be permitted to entertain some doubts as to whether she really knows her own feelings. It is a melancholy exemplification of the facility with which a philanthropist, who devotes himself exclusively to the eradication of one form of evil, can deceive himself, and come to regard any means justifiable, in the pursuance of a supposed good end. That subtle analyst of character, Nathaniel Hawthorne, has ably dis-

sected this species of delusion in the Blithedale romance, whose hero, Hollingsworth, we commend to Mrs. Stowe's study. It is easy to see how she misleads herself, by first assuming a position, and then trying to collect facts to support it, a course which will lead the best-intentioned person into twisting facts to suit his purpose. It is evident Mrs. Stowe's mind is in that excited state which fitted her rather to defend a pre-adopted conclusion, than to investigate facts to arrive at conclusions.

It may be well to premise, that, while attempting to prove in the following pages that slavery, even if it be an evil in the abstract, is not one in our case, because emancipation would lead to still greater evils, the writer would utterly disclaim any intention of conceding it as such, even in the abstract. Whether it is an evil or not, is simply a curious, and not in our case a practical question; and in attempting to make proof that it is not necessary to our case, Mrs. Stowe attempts to drive us from the vantage-ground we really occupy.

The plain answer to the question how did American slavery originate, is one which so totally exculpates us, that we cannot but feel indignant at the odium cast upon us. They were brought into this country by the British Government, for their own gain, and in violent opposition to the wishes of our forefathers. While Massachusetts was the first state which participated in the slave trade, and it was openly countenanced by William Penn, it was fairly forced upon the slaves states, and Bancroft says Virginia passed twenty-three acts prohibiting it, by placing duties on slaves. It really is preposterous, that the English and the North, retaining the money which was the price of the property forced upon us, should make such clamor because we deem it necessary to our existence to keep them slaves. This begging of the question, which is, we believe, the logical term for Mrs. Stowe's grand sophistry, is shown very plainly in the notice she takes of the protective acts. She says they are peculiarly suggestive of the state of things which made such enactments necessary. The state of things is one for which we are not responsible, but it is to be traced to the cupidity of those who brought the negro into this country, and so made slavery necessary.

The question of emancipation taken for granted as perfectly safe, Mrs. S. tries to enforce it by comparing the arguments used against it to those used by despotic governments in favor of despotism (Key, p. 120). Fortunately for a reply to this plea, we live in a day when experience has proved that those arguments hold perfectly good in the cases of some despotic governments. Mexico and France have both proved that races far above our negroes are by no means fitted for republican government; and, after repeated trials, France has been obliged to adopt a severe despotism. Neither we nor they are obliged to

defend despotism or slavery, in the abstract, against the cause of free government. We have only to choose between them and anarchy.

In order to make out her favorite theory of the fitness of the slave for emancipation, Mrs. Stowe represents the race as far superior to the reality. We should be sorry to think the grace of God could not make a man as good as Uncle Tom; and though God does not often give grace to endure martyrdom, because not often needed, we believe He would give it as soon to a poor negro as to the whitest of us. Mrs. Stowe's most intelligent negroes are mulattoes. However, she rather waives this discussion of capacity, and says she has committed her materials to a friend, who will write a book about it, so it may be unfair to attack her argument until fairly expressed. We hope her friend's proof of the acuteness of the race will not be drawn from such facts as, that half of a congregation, to whom the Rev. C. C. Jones was preaching against running away, from the epistle to Philemon, incautiously got up and walked out of the Church. This she takes to be proof that they saw the fallacy of that gentleman's arguments, while it simply proves they did not *like* his views. We hope Mrs. S.'s friend will not attempt to account for their degradation, by saying, as she does, on page 31, that we have "kept them from the means of education," &c. To test this, we have but to view their condition in Africa before they came into our hands, and what they are becoming in Jamaica since emancipated.

To prove the superior blessings of freedom, she contrasts the Northern and Southern States. Now we do not admit that the Northern States are so much more prosperous than ourselves. The people are better educated, but that is because, being more thinly settled, their public school system is impracticable in our case. Admitting they are more prosperous, however, for the sake of argument, unless the same proportion of the people of the Northern States were free negroes that are slaves at the South, it could not prove emancipation would benefit us. That the Northern States have no great appreciation of the benefit of such citizens, is proved by their own laws against them.

Mrs. Stowe's account of the emancipation laws is quite amusing. Having assumed in her own mind that emancipation is perfectly safe, and ignoring the fact that we presume to have an opinion of our own about our own business, she is perfectly astonished that we should have laws against it. She might have known at the outset that slave states entertained a different opinion. If they deemed free negroes perfectly safe to a community, and were actuated only by their own selfishness in keeping them slaves, all they would require would be a deed of emancipation. That they have not, according to their views,

imposed unnecessary restraint, is shown by their permitting emancipation when the legislature shall pronounce it not inconsistent with the welfare of the state. Mrs. Stowe gives us a horrible case, that of Brazealle. His wife and child were made wretched for life, because he married his slave before he knew whether she could be freed, and educated her son to expect what he did not take the requisite steps to obtain for him. We suppose if a man were to adopt a son in a free state, educate and lead him to expect a fortune, and then leave him penniless by not properly writing his will, Mrs. Stowe would consider the laws to blame. That it should be the great and fundamental policy of slave states to retain negroes in slavery is but what might be expected, though Mrs. Stowe does seem so astonished at it. The indignation, however, covers the fact, which she omits, that we presume to think emancipation unsafe, and likewise helps to make it appear that we are influenced solely by hatred to the slave.

There is another branch of the subject, viewing which through a prejudicial medium, Mrs. S. has contrived to heap together several separate and distinct sophistries, so that it requires some thought to unravel them completely. The first is referable to a habit she has of looking at every evil of which she hears in the Southern States (where, of course, as everywhere else under the sun, there are evils) as the result of slavery, whether or not it can be traced back to that source. The cotton and tobacco culture being peculiarly exhausting to the soil, and fresh land out West being cheap, and easily obtained, have caused the planter, who, like all others of the human race, is actuated by individual interest, to pursue the more profitable policy of wearing out one place and buying another. Thus large portions of the older states have become unfortunately impoverished. This Mrs. Stowe accounts for by a notion she has of the "peculiarly exhausting nature of slave labor." Since to produce cotton and tobacco the soil must always be cultivated in a peculiar way, we do not see how its being cultivated by a free or slave man could make any difference. This is the first sophistry. Owing to this improvement, some of the older slave states have become unable to support their rapidly increasing population with ease, and emigration has become necessary. Now, of course, slavery, like every other state of society, has its peculiar evils, and the emigration, like the service, is involuntary. As for any sentiment about leaving their old homes, this is applicable to both whites and blacks. It may be said that it is one of the evils of this necessary emigration that it makes us look upon slaves more as a matter of gain. Although we deny that our own selfishness was the *cause* of slavery, it is not to be denied that the slave is looked upon as a source of gain. Men are often looked upon

by each other as sources of gain. Manufacturers look upon the workmen as such. The question is, do the laws interfere to prevent men's using improper modes to make gain of each other? The same circumstances which excuse us in permitting them to require involuntary service of each other, excuse this compulsory emigration. Undoubtedly, the evils that arise in transporting slaves from place to place, form the worst light in which to view slavery. It has caused much separation of families; but this we shall discuss in analyzing Mrs. Stowe's arguments on the incompleteness of our slave trade. It also throws them into the hands of traders, who certainly are most apt to become imbruted, and regard them solely for gain; but while exhibiting this, Mrs. Stowe should not have neglected to say that the State of Georgia has sought to put some sort of a limitation on this, by enacting (Hotchkiss, p. 776) that they shall not be brought into this state by persons who intend to trade in them. No; it better suited her purpose to dress the thing up, detail its horrors, and, by way of throwing odium on us, call it by a term which the world considers a term of reproach, *the internal "slave trade."* Mrs. Stowe well knows how a cause can be injured by the skilful application of a bad name.

Mrs. Stowe says that the cause of all wrong, and in itself the chief wrong in the catalogue of sins against the negro, is the prejudice of caste, the antipathy of race, the feeling we crush into their souls that they are "nothing but niggers." This is assuming that we are the sole cause of their degradation, and forgetting the fact that their Maker created them "nothing but niggers," and that emancipation never can whiten those black skins, or elevate those weak intellects. Jamaica seems to prove that it deteriorates them. According to Mrs. Stowe's own showing, the free negroes at the North suffer from the antipathy of race. Even where laws are equalized, as in Massachusetts, they still are a separate caste. It is this antipathy of race which makes American slavery such a problem, one in which history, that "philosophy which teaches by example," lends us no light, for she presents no example of races with such antipathies living together on the same soil. Here we must live for the present, and we may talk and preach forever; but so long as so small a proportion of the world are sincere Christians, to be influenced by talking and preaching, the prejudice will still remain. The truth is, if anywhere mitigated, it is at the South, where they are slaves. Undoubtedly Mrs. Stowe was right when she made Evangelina St. Clair feel a love and affection for her poor nurse, which utterly astonished that good New-England Christian, Miss Ophelia. For some such reason, while Massachusetts offers citizenship to the free negro, and Virginia uses every effort to compel them to leave by heaping political

disabilities on them, fifty thousand of them persist in remaining in Virginia. If the slave is anywhere to look for friends to improve his condition, certainly they are to be found among enlightened and liberal Southerners, in whom this prejudice is, as might naturally be imagined, mitigated, from having played with them, been nursed by them, and surrounded by them from childhood. Such, and those perfectly free from every taint of abolitionism, throughout the length and breadth of the South, do really feel a warm interest in the slave. Their feelings of humanity, so far from being deadened by slavery, are warmed and strengthened by it. The writer has known men of this class again and again sacrifice pecuniary interest and personal pleasure to their affection for their slaves. Mrs. Stowe asserts that there is nothing in this love and affection peculiar to slavery in distinction to servitude, and instances the attachment of some tenants on English estates to prove this. Any thing which strengthens and gives permanency to the tie between servant and master, or landlord and tenant, undoubtedly tends to render the tie one of affection as well as interest; and in England the law of entail, which keeps estates in the same family, and thereby tends to keep tenants so, has this effect. Slavery has the same tendency. Besides, there is the prejudice of race to be overcome in the one case, so the cases are not similar. That slavery should, under such disadvantages of race, produce fruit which servitude has produced among men of the same race, by the artificial aid of entail law, is certainly something in its favor.

The question then arises, if the liberal and humane are so influenced by the fact of possession, what have they done for the slave? Mrs. Stowe says they have done nothing. She holds up the deficiency of the slave code, and points out instances of imperfect execution of the acts which exist, and by way of destroying all evidence for them, says the protective acts, by a perfectly legitimate interpretation, mean actually nothing.

From her review of the protective acts of the slave code, and certain trials under them, chiefly those of Souther, Rowand, and Castleman, she draws three conclusions.

First, that masters do sometimes kill slaves by torture.

Secondly, that the fact of so killing a slave is not, of itself, held presumptive of murder in slave jurisprudence.

Thirdly, that the slave, in the act of resistance to his master, may always be killed.

Souther's case, so far from warranting her second conclusion, flatly contradicts it. We admit the case is horrible, and we heartily wish Souther had been hung; and the jury were much to blame to bring in such a verdict as the jury of the lower

court did, still we do not see how Mrs. Stowe could overlook the little summary of the principle established, which usually precedes these law reports, and which says, as she has it at the head of the case in the Key, p. 79, "the killing of a slave by his master and owner, by wilful and excessive whipping, is murder in the first degree, though it may not have been the intention of the master and owner to kill the slave." The decision of Judge Field, the expounder of law, bears this out. The case only proves the jury decided in spite of law, which juries will sometimes do, both in free and slave states; and the principle which prevented Souther's being hung, "that a man cannot be tried twice for the same offence," is applicable to white and black alike. The cases of Rowand and Castleman decide no principle, but only prove the juries considered the evidence insufficient for conviction.

Her third principle she makes cover the case of Legree's beating Tom to death. The only acts authorizing the killing of a slave "*resisting*" his master are those of North Carolina and Tennessee, quoted page 83; but the "resistance" therein spoken of was by fighting or striking, and could not shelter Legree, for Tom did not resist, but submitted completely. He lay still and let Legree beat him to death. Mrs. Stowe says Legree would be sheltered by the express words of the constitution of Georgia. This constitution, as quoted by her, and as found in Hotchkiss's statute-book, only permits a negro to be killed in case of "*insurrection*," &c. Mrs. Stowe says Tom's case was insurrection; "because," she says, "if the law does not protect the master in enforcing obedience, there is an end to the whole slave power." The Constitution of the United States, Article 1, Section 8, authorizes the calling out of the militia in case of insurrection. Now we wonder if Mrs. Stowe would think Legree entitled to its aid because Tom lay still and was whipped. If all the negroes in a county lay still and were whipped, we do not see what their masters would want with the United States militia, or how they would employ them. The truth is, the penal code of Georgia authorizes no such interpretation of the word insurrection; for it defines insurrection and resistance, (Hotchkiss, p. 704,) by using them both synonymously with revolt and conspiracy. That slave states do not consider permitting masters to whip negroes to death as essential to the existence of the slave power, is evident from the case of Virginia, where the law, as decided by Judge Fields, in Souther's case, is, that "although a master may punish his slave to enforce obedience, the owner of the slave acts at his peril, and if death ensues in consequence of such punishment, the relation of master and slave affords no ground of palliation or excuse," and the crime is the highest which the law knows—murder in the first degree. The case of

a negro flying is one which would come under Mrs. Stowe's definition of resistance, as much as lying still and being beat to death; but in South Carolina (case of Witsell *vs.* Earnest & Parkins—Wheeler's Law of Slavery, p. 202, and Key, p. 75,) it is decided he "cannot be killed flying from his pursuers." We think the State of Virginia likely to be better informed than Mrs. Stowe as to the essentials of slave power; and she not only prohibits the master from enforcing obedience to just commands, but if he kills a negro in attempting to enforce the most reasonable orders, the crime is still murder in the first degree. Would Mrs. Stowe think her parental authority at an end because she had no power to kill a perseveringly contumacious child? The truth is, it is not often that the disobedience of a slave to just orders will require to be so enforced, and it is probable more masters than slaves might abuse the law, so the State of Virginia humanely discriminates in favor of slaves; and though we do not wish to be sarcastically misrepresented as looking on Souther's *case* as an "overflowing example of legal humanity," we think the *Courier and Enquirer* quite right in considering *the principle established* by the judge, the expounder of law, as one of impartial justice. This discrimination in the slave's favor is quite contrary to Mrs. Stowe's assertion that our laws always favor masters where the interests of masters and slaves cross each other. The Supreme Court of Georgia decided, (case, Neal *vs.* Farmer, Cobb's Reports, vol. 9, p. 555,) that "damages for killing a negro cannot be recovered until the murderer has been prosecuted for killing to conviction or acquittal." Mrs. Stowe has probably omitted decisions of this kind in other states, whose laws we have not the opportunity of overlooking as we have those of Georgia.

A few words as to the phrase, "dying under moderate correction," as the North Carolina act phrases it, or "dying *by accident* under moderate correction," as the Georgia Constitution expresses it. Says Mrs. Stowe, (Key, p. 83,) "what rule in the world will ever prove correction immoderate, if the fact that the subject dies under it is not held as proof?" That the common law of England did not always think such proof sufficient, is shown in Blackstone's Commentaries, vol. 2, book 4, chap. 14, where, speaking of homicide per misadventure, he says, "where a parent is moderately correcting his child, a master his apprentice or scholar, and happens to occasion his death, it is only misadventure."

Thus much as to the intention of the slave code. Now a word as to its deficiencies, which Mrs. Stowe exaggerates. While we admit there are cases where passion and revenge will prevail over interest, to make a man kill his own slave, we cannot permit Mrs. S. to pass over altogether as she does the protective

influence of interest. In a free state, we suppose the fact that a man would lose an income of two hundred dollars per annum by the death of any other man, would be considered presumptive evidence in his favor, if accused of murdering the man in whom he was so interested. Of course we cannot say exactly how far it is a protection, but that does not excuse Mrs. Stowe in passing over this protective influence altogether, or in saying, (p. 100,) "will any body say the master's life is in more danger from the slave than the slave's from the master?" The truth is, it is impossible to collect evidence where the protection has availed, very easy where it has not.

> "What's done we partly may compute,
> But know not what's resisted,"

or prevented rather.

Before closing this branch of the subject, it seems the proper place to notice some things in Mrs. Stowe's comments on the cases of Souther and Rowand. In Souther's case, after giving us the horrible details, she quite loses her temper, because the court was "self-possessed," and the lawyers "calmly sat and examined, and cross-examined," in accordance with the merciful laws of our country, which permit the most criminal to have the best possible defence made for him by the best counsel he can obtain. Souther's counsel tried to prove the offence, if any, amounted to manslaughter; and in free states, in murder cases, we think it likely the lawyers do the very same thing. What would Mrs. Stowe have them do? It really seems as if she would have all offenders against her beloved negroes hanged without judge or jury, or any formalities of trial, though we should be loth to suspect such a thing of so vehement an advocate of law and order——*when they are on her own side.*

The arguments of Mrs. Rowand's lawyer, in endeavoring to palliate her guilt, are not to be considered as exhibiting the light in which in slaveholding communities we view such things. When that gentleman says, "an attempt has been made to manufacture murder out of what was ordinary domestic discipline," and characterizes the event as "unfortunate and sad, he is only doing what lawyers usually do in such cases, endeavoring to make the best case possible for his clients. In a similar light must we view his injunction to the jury to remember the words of our Saviour, "Let him that hath never sinned throw the first stone;" and though Mrs. S. is surprised that no juryman indignantly resented the charge, we presume the reason was they looked on it as we do, not as an attempt to charge them with guilt, but to lighten Mrs. Rowand's burden. Dismiss the arguments of these lawyers as evidence, and we sweep away some pages of her sarcasm.

We must also notice the advertisements on page 21, of owners

offering rewards for negroes dead or alive. These are mere pieces of bravado on the part of masters, and if the negroes had been killed, would have been murder according to the laws of the states in which they were advertised. We have above reviewed the laws of North Carolina and Georgia, and cited the case of the negro flying in South Carolina; but must postpone the further consideration of the subject to the next number of the Review.

Art. VI.—DOMESTIC POULTRY.

ORIGIN OF DOMESTIC POULTRY—FOUND IN AMERICA, AS WELL AS IN ASIA—IN THE ISLES OF THE PACIFIC—ANCIENT HISTORY OF THE BIRD—DESCRIPTION OF THE MORE IMPORTANT VARIETIES—THE SWAN—POULTRY AND EGG TRADE OF THIS COUNTRY, ENGLAND AND FRANCE.

THERE is no subject that has been more generally disregarded, by writers on agriculture and domestic economy, than that of *poultry;* and yet, among the minor objects worthy of the agriculturist's attention, this is by no means the least. It may well be said, that, whether on the plantation of the South, or the farms of the North, there is no branch of rural industry which, while it requires so little labor and capital, affords, at the same time, so excellent and ample a return as that of poultry-rearing. It is generally regarded as a "small business;" and it certainly is a small business, when we compare it with many other agricultural pursuits, such as raising of hogs, sheep, horned cattle, horses, &c.; but still, it is not without its importance—its great importance—and it deserves a share, at least, of the attention of all engaged in agriculture.

It is the opinion of many naturalists, that it is to Southern Asia, so noted for the variety of its gallinacious birds, and the gorgeousness of their plumage, that Europe and America are indebted for their domestic fowls; with the exception of the *turkey*, furnished by the American forests, and still abounding in them; the *Guinea fowl*, brought from Africa, where there are three or four species wandering in flocks of hundreds among the brush-wood on the banks of the rivers and lakes of Numidia, and in all the tropical regions, and even more abundantly in Madagascar; and lastly, the *goose* and the *duck*, which are our own birds. North America possessing specimens of all the genera of the web-footed tribe that are to be found in the Old World, besides several species peculiarly its own.

It has been made a question among ornithologists, whether the common domestic fowl is indigenous to America. The general opinion is, that it was unknown in the New World before the arrival of Europeans. Some of the oldest Spanish writers on America assert, that it was found among the Peru-

vians by those who first visited that country, and that their name for it was *guolpa*. The Inca, *Garcilusso de la Vega*, who wrote at the beginning of the eighteenth century, distinctly contradicts this, asserting that domestic fowls were brought to this continent by the Spaniards.* In his Royal Commentary of Peru,† he devotes a whole chapter to the subject of disproving the assertion of writers who had preceded him, that the domestic fowl was a native of Peru, or at least of America; but although he is very positive on the subject, his arguments are not entirely conclusive.

Oliver de Serres, in his work on Guiana, written after a voyage to that country in 1795, asserts that he saw, in Guiana, a small species of wild cock and hen, which differed from the ordinary domestic fowl only in size.

Mr. D. J. Browne, in his late work on domestic poultry, seems to adopt the popular opinion regarding the origin of our domestic fowls. "At the time of the discovery of the American continent by Europeans," says he, "the domestic fowl was not found in any part of it." He cites no authorities for this, as though it were a settled question; but there is certainly much in favor of the opposite view. Besides De Serres, above quoted, the traveller Sonnina found them in the forests of South America. Major Salines also saw wild cocks in Guiana, in 1776. Cuvier is fully of the opinion that the wild cock, *gallus gallinaceus*, was found in the forests of America when it was first discovered. He cites many authorities for this opinion, and concludes as follows: "It appears, then, probable, that wild cocks are equally found in both continents. There appears no reason whatever to reject the testimony of these travellers."‡

The Jesuit Acosta asserts that hens existed in Peru before the arrival of the Spaniards.§

The idea that all the animals of America must have originally come from Asia, is one which, in the present age, is rapidly losing ground. "There is only one way," says Agassiz, "to account for the distribution of animals as we find them, namely, to suppose that they are *autochthonoi*, that is to say, that they originated like plants, on the soil where they are found."‖ To attempt to explain the geographical distibution of animals on any other supposition, only leads one into interminable discussions which cannot be sustained by geological, ethnological, and palæontological facts. The old assumption that all of our present existing birds must have had their progenitors in Noah's ark, is sustained neither by science, nor by a fair interpretation of the Sacred Scriptures. The Scriptures nowhere say that there was but one

* Histoire des Incas, p. 1089.
† Chaps. 23, book ix.
‡ Cuvier's An. King., vol. 3, p. 178.
§ Cuv. An. King., vol. 3, p. 176.
‖ Principles of Zoology, p. 211.

creation, and that only in the old world; and geology and ethnology afford overwhelming arguments against that assumption. God seems to have created for each clime animals and plants adapted to it; and not to have created in a single locality, and that in or near the torrid zone, animals which he intended for the temperate and even the polar regions of the earth.*

Upon the supposition of a single creation of animals, it would be very difficult to explain how it is that domestic fowls were found in many of the remotest islands of the Pacific Ocean, when first visited by Europeans. The first discoverer of the Sandwich Islands found the domestic fowl there, which, according to the traditions of the islands, had been there as long as the people themselves. Traditions declare that the progenitors of the inhabitants of the Sandwich Islands came from the Society Islands, bringing with them hogs, dogs, and a pair of domestic fowls.

Captain Cook discovered the domestic fowl on many islands that had never been visited before by civilized men; and so widely were domestic fowls found to be distributed among the islands, by the earliest navigators, that it is difficult to imagine that they must have been carried thither. The only rational supposition is, that they were created where they were found, like the plants that sheltered them from the rays of the scorching sun. "There is only one tame species of birds, properly speaking," says the journalist of Cook, "in the tropical isles of the South Sea, namely the cock and hen. They are numerous at Easter Island, where they are the only domestic animals; they are likewise in great plenty in the Society Islands and in the Friendly Islands, at which last place they are of a prodigious size; they are also not uncommon at the Marquesas, Hebrides, and New Caledonia; but the low islands, and those of the temperate zone, are quite destitute of them."†

As to the ancient history of fowls, we shall not attempt to write it. They are, probably, as old as any race of birds now existing. They seem, like the cat and dog, to have been among the first companions of man, for they find honorable mention in even the oldest records—Chinese, Assyrian, Jewish, and Egyptian. Their profiles are found on the monuments of Nineveh, now undergoing exhumation; they are also seen on those of

* Although Buffon, Sonnerat, and others contend for one original source of our domestic fowls, Cuvier, who certainly had better means of judging, is of the opposite opinion. "It certainly appears more reasonable to admit, in this genus," says he, "several sources, several primitive species, the diversity of which form our peculiar races."—Cuvier, An. King., vol. 3, p. 173. M. Temminck is also of the same opinion.

† Dampier found them at Pulocondor, Timor, and St. Jago. Voyages, vol. 1, p. 392. See also Cook's Voyages, vol. 3, p. 463; Anson's Voyages, p. 416; Keate's Narrative, p. 300.

Egypt, of a date thousands of years before Christ; they are honored with a place in Holy Writ; and Homer has not thought them unworthy of a place in his immortal epic. Aristotle mentions them as things as old as the world itself; and, in short, the domestic fowl has been named by almost every poet, historian, and philosopher, either incidentally or specially, of ancient times. It has ever been the most honored of all birds. They can boast of the highest antiquity.*

In a paper on domestic poultry, a description of the most important species cannot be omitted. We shall, therefore, briefly enumerate and describe some of the principal.

1. The *Javanese Jungle Fowl* is found wild in the Isle of Java, and is about the size of the common bantam—the black-breasted red varieties of which, with a dark steel blue band across the wings, it closely resembles.† The space around the eyes and throat are bare, the comb is much developed, and deeply serrated on the upper ridge, and the wattles are rather large. Long, clear, brilliant gold and orange plumes cover the neck and rump. The upper part of the back, over which fall the plumes of the neck, is of a bluish black. The middle and lesser wing coverts are of a rich deep chestnut, with the webs of the feathers disunited; greater coverts, steel blue; secondaries, ditto, with a chestnut border. The quills are of a brownish black, edged with pale reddish yellow. The tail is black, glossed with changeable green and blue; breast and under parts black. The contour is exceedingly graceful, and every action animated and lively.

The Javanese jungle fowl is regarded by Mr. Browne as the main, if not the only source of the Bantam breeds. The very term Bantam denotes the Javanese origin, Bantam being the name of a town and district in the north-western part of Java, belonging to the Dutch, whence these fowls were exported to England, where the English called them Bantams, from the place whence they were brought. The elegance and diminutive size of the fowls rendered them favorites, and in due time the name of Bantam came to be conferred on all small or dwarf fowls indiscriminately, whether of the genuine Javanese blood or not.

The domestic Bantam stock, as every one knows, breeds freely with ordinary fowls, producing fowls of an intermediate size; and the same is also true of the genuine Javanese jungle fowl.

* "The domestication of the cock ascends to times of such remote antiquity, that it is hopeless to determine its era; and it is more than probable that the primitive stock will never be ascertained."—Cuvier, An. King., vol. 3, p. 171.

† These descriptions we condense from the very able work entitled "*The American Poultry Yard*," by D. J. Browne, Esq., author of the *Sylva Americana*. Mr. Browne's work ought to be in the hands of every farmer in our country.

2. *Sonnerat's Jungle Fowl.* The male of this species is of a size intermediate between the Bantam and the game cock. The contour is peculiarly light and graceful; the comb and wattles large; the tail of a deep rich refulgent green, and the entire plumage of the fowl glitters like gold in the rays of a bright sun. The size of the female is about one third that of the male.

Under the term "Sonnerat's jungle fowl," two species of the jungle fowl appear to have been confounded together—at least by most naturalists. Sonnerat and many other naturalists have contended that to this species alone are our breeds of domestic fowls to be traced; but the Javanese or Vankiza jungle fowl, and the Great Malay, in the opinion of Mr. Browne, present strong claims. The *gallus sonneratii* is very abundant in the Western Ghauts mountains, where there are two varieties—a long legged species in the valleys, about 2,000 feet above the sea, and a short legged, on the sides of the mountains, 4,000 feet over the sea. They are the favorite fowls of the cock-fighters of Hindostan.

There are several other varieties of the jungle fowl, but we must refer the curious reader to works of ornithologists for their description. The varieties of the domestic fowl are very numerous, each country having some peculiar to itself. It is only to the principal of these varieties that we can invite the attention of the reader.

3. The *Spanish Fowl*, the *gallus gallinaceus* of naturalists, is a noble species, possessing many excellent qualities. The thorough breeds are entirely black; hence they are called the Black Spanish Fowls. They are very large birds, both the male and the female, the latter producing very large white eggs of a peculiar shape, being very thick at both ends, and yet tapering off a little at each. They are a bird not adapted to a cold climate, as the northern part of the United States.

4. The *Dorking Fowl*, so called from Dorking, a town in Surrey, England, is regarded by many as the breed most desirable for stocking poultry yards. They are large bodied, and of better proportions, according to their size, than any other variety. They are all more or less white, with short white legs, and thickly feathered. The cocks are magnificent. At maturity the weight of a Dorking varies from 5 to 8 lbs., and full-grown capons have been known to weigh from 10 to 12 lbs. The eggs are large, and of a clear white, usually. The hens are not what are called "universal layers," though they produce eggs in reasonable abundance. Dorkings are distinguished by their having a supernumerary toe on each foot. The pure white Dorkings have five toes, and are the original breed, though this is questioned. The first Dorkings were brought into the United States in 1840.

5. The *Cochin China Fowl*, the *gallus giganteus*, is said to have been brought from Cochin China. This is doubted, though an oriental origin is admitted. Many exaggerated accounts have been given of this bird. In size it has been compared to the ostrich, and called the "ostrich fowl." It has also been said that its wings have an additional joint. As to color, it is altogether a flame-colored bird.

According to the English accounts, the males weigh from 12 to 15 lbs., and the females from 9 to 10. Mr. Browne thinks this an exaggeration, and that the average weight is only 7½ lbs. for the males, and 6½ for the females. The average weight of the eggs is about 2 ounces. They are oval, nearly equally rounded at each end, usually of rich buff color, but sometimes white. This breed of fowls has undoubtedly great merits; but Mr. Browne is of the opinion that they "are not the most desirable for general use." The Cochin China fowl is said to have been presented to Queen Victoria from the East Indies.

6. The *Kulm*, or *Great Malay Fowl*, is in high repute with many writers, as a supposed connecting link between the wild and the tame races of fowls. Something like this breed is still found in the East. As to size, this bird has nothing to recommend it; the hens however are excellent layers, and their eggs are fine. The Kulm fowl is kept in a domestic state in India, Java, Sumatra, Malacca, and in Cochin China. It has long been known in England, although it is only within the last few years that much attention has been given it in America. The males, in their natural altitude, often considerably exceed two feet in height from the ground to the crown of the head. The neck is long, and covered with plumes of a pale golden reddish color. The body is stout, and the legs long, but very robust. The hen is considerably less in size than the cock. Its eggs are of a good size, and of a rich buff or brown color.

7. The *Pheasant Malay Fowl* has had the honor of giving occasion to more disputes among learned chicken amateurs than any other bird of its tribe; the great question being, whether it is a cross between the pheasant and the common fowl—"a mule between the common hen and the cock pheasant." We do not know whether this great question has ever been heard of by any of our readers; but we can assure them, that it has at times created great excitement and uproar in chickendom. Dealers in chickens have been in the habit of praising these "mule" Pheasant Malay fowls to their customers, as being half pheasant; and buyers, delighted with the idea, have readily paid down their money, thinking that they were getting a nice fowl, and a taste of a pheasant into the bargain. Mr. Browne scouts the idea of these fowls being hybrids.

The Pheasant Malays are large, well flavored, and good lay-

ers. Six of the eggs weigh nearly 12 ounces. The cocks have a dark red plumage, and white legs and skin.

8. The next fowl described by Mr. Browne is the common *Game Cock*—the *coq-anglais* of Buffon, and the *gallo peleador*, or fighting cock, of the Spaniards. This bird approaches more nearly to the Malay and Pheasant Malay than any other variety of fowl. There are a great many varieties, the nice distinctions of which are only studied by amateurs in cock-fighting—a barbarous kind of amusement, which ought to be prohibited by law in all countries, and which we hope will soon become obsolete. Many noble families in Europe still preserve with great care the best varieties of these fowls. The Earl of Derby is said to be a great admirer of them, and a *connoisseur* in raising them; but whether, like *Santa Anna*, he spends his Sundays at the cock-pit, "report saith not."*

Mr. Browne gives a very minute and elaborate description of these birds, in the true spirit of a naturalist. He endeavours to uphold its fair fame, and to eke out to it a full allowance of sympathy and stern justice, maintaining that "the game-cock is by no means the aggressive, sanguinary tyrant that he is commonly represented to be." "He will submit," says he, "to no insult or intrusion within his own domain; but neither does he offer any unprovoked assault. If his antagonist fly, he is satisfied, and does not pursue him, in order to perpetuate any bloody revenge. Other poultry that are killed by game-cocks generally draw down the punishment upon themselves by their own imprudent and continued aggression. The bird, too, is as enduring of pain as he is bold in combat." Mr. Browne does not, however, hold them up as perfect "patterns of gentleness and forbearance."

The flesh of the game-cock is excellent, but the eggs are small. Their pugnacious qualities are the most remarkable traits about them; but, considered in an economical point of view, they are hardly worth the attention of the former.

9. The *Gold and Silver Hamburgh Fowl* is a handsome bird, but small bodied. It is remarkable for being what the chicken fanciers call an "everlasting layer," the hen, if kept in a warm situation, continuing to lay eggs throughout the whole year.

It would be tedious to enumerate the half of all the different varieties of domestic fowls now known; we shall therefore only note some few others the most remarkable.

The *Shanghae Cochin China Fowl*, originally from Cochin China, whence it was taken to Shanghae, and thence to Liverpool, was first introduced into this country in 1848. It is

* Henry VIII., James I., and Charles II., of England, were all very fond of cock-fighting, and encouraged it. Cromwell very properly abolished this barbarous amusement.

large, and a great layer. It has been known to lay 120 eggs in 125 days. Its general plumage is of a bright yellow or gold color.*

The *Plymouth Rock Fowl*, so called, is another remarkable bird. It is a mixture of fine primitive races, the Cochin China, Dorking, Malay, Turkish, and Indian. It measures from 32 to 35 inches high, and weighs about 10 lbs. The pullets begin to lay at five months old. The demand for this fowl has, of late, exceeded that of all others.

The *Ostrich Fowl* is a most valuable variety, said to have originated in Bucks County, Penn. They are good layers, and their eggs weigh 4½ ounces each.

The *Booby Fowl*, is a large Asiatic breed. The males weigh from 9 to 10 lbs., and the females from 7 to 8 lbs. They are prolific layers; their eggs weigh over 3½ ounces, and measure three inches in circumference.

The *Bucks County Fowl* is another monstrosity, first brought into notice in Bucks County, Penn. It is of great size, and its eggs are large and well flavoured. It weighs from 8 to 10 lbs.

The weight of many varieties of domestic fowl is a subject which has led to much exaggeration, though as we have shown many varieties attain to a very large size. In a work on poultry, published by Mr. Dixon, we find some curious statistics on the subject. From his account it appears that the average weight of some of the varieties is as follows:

Pheasant Malay cocks, 7 lbs.; speckled Surrey hen, 5¼; Spanish hen, 5; Dorking cocks, 7 lbs.; Dorking hens, 6¼; the cock Turkey, 17¾; Turkey hen, 10lbs.; Geese from 10 lbs. to 12lbs.; Cochin China fowls, from 4½lbs. to 6½lbs.; Malays, from 5½lbs. to 6¾lbs. Other varieties weigh from 2lbs. to 4lbs. Mr. Dixon ridicules the accounts of Cochin China fowls weighing from 10lbs. to 15lbs. The London Agricultural Gazette, for September 30, 1848, stated that the male Cochin Chinas weighed from 12lbs. to 15lbs., and the females from 9lbs. to 10lbs.; but per-

* Most writers on poultry do not recommend the gigantic varieties as the best for eating and profit. Their flesh is usually coarse, oily, and rank. Mr. Browne observes, speaking of the Cochin China fowl, that, "in his humble judgment, neither this, nor any other breed of excessively large fowls, is the most desirable for general use." The Committee on Poultry of the New Hampshire State Agricultural Society, urge the careful breeding of the domestic varieties of fowl—the Dorkings, Bolton Grays, and their crosses—in preference to the Giant Chinamen. Neither profit nor good taste, they say, suggests the breeding of China Hens. They are not great layers, nor prolific, are long in getting their growth, and are great eaters; upon the table, are coarse and stringy; and of a certainty are no ornament to the farm yard, their form being awkward and ungainly, and their crow being, as has been well observed, "not the honest Saxon crow, expressive of daybreak, love, war, and animal spirits, but a horrid ejaculation, between a Chinese sentence, as described by missionaries, and a badly blown dinner horn." If these things are so, why is so much attention paid to the breeding of them? This is a plain question, and shall have a plain answer. It is because speculation, curiosity and fashion will govern people."

sons anxious to see such birds never could get a sight of them. Mr. Samuel Allen, who has made some valuable additions to Mr. Browne's book, also doubts the enormous size ascribed to the Cochin China variety.

Among the great variety of domestic fowls, one is often perplexed to know which are the best for breeding, all things considered. The breeding of fowls, says Mr. Samuel Allen,* an able writer on the subject, is with many more a matter of fancy than of the intrinsic value of the different kinds; and the safest way to give advice on the subject is to say, let each individual select that variety which he likes best; let him breed and compare the merits or demerits of each until his judgment is well founded upon actual experience, holding rigidly to the principle of not crossing different breeds for permanent use, but keeping them, if possible, entirely distinct, for in no other way will the test be a fair one. He discourages all attempts to raise the Cochin China, Shanghae, Great Malay, Jago, and other gigantic breeds, which are produced by crossing with one another, contending that large size alone, in any fowl, is not a desirable quality.

The *Dorking* is a fowl, all things considered, says Mr. Allen, much to be preferred to all others for profit. They are scarce, and bear a high price. For eggs, the Polands are undoubtedly the best; and next to these the Dorkings. The game fowl, crossed with the Dorking, is also a very desirable bird; and lastly the Dominique fowl is another breed coming more and more into favor.

As to the common Turkey, Mr. Allen prefers the black or dark coloured to all others, as they are generally the largest birds, hardy, and equal to the other kinds as to laying, as well as in the flavor of their flesh. Next to the black, he prefers the buff-colored. White turkies are the poorest of all.

The *Guinea Hen* is, of all domestic fowls, the greatest layer; but it is also the most destructive to gardens and cultivated fields. They will often devour or destroy, in a few hours, more than all their eggs and carcasses are worth. Their flesh is decidedly poor.

As for the *Peacock*, it is at the same time the most beautiful and the most worthless of all domesticated birds. It is a native of India and the Indian Islands, where it is found in almost incredible numbers. A writer in the American Agriculturist has so well described the qualities of this bird that we cannot avoid copying his description: "It is idle and vagrant in its habits, mischievous in its propensities, and of little utility either in its carcass or its eggs. It is tolerant alone for its gorgeous display

* Appendix to Browne's American Poultry, &c.

of plumage, and the showy splendor of its attitudes. I have kept them many years; and every year of my observation only confirms in my mind the truth of the ancient proverb, applied to the bird: '*It has the plumage of an angel, the voice of a devil, and the maw of a thief.*' They are destructive in the garden, vindictive and quarrelsome among other poultry, without either merit of bravery or energy of defence. Yet, after all, I like them; they make a beautiful show among the poultry, and add to the infinite and delightful variety of animated creatures with which a kind Providence has blessed our vision."

Mr. Allen recommends the *Bremen Goose*, crossed with the China variety, as the best and most profitable. Geese can never be raised to any advantage where they have no good water privileges. The white China goose is the variety adapted to the South. With proper feeding and care, it will lay nearly the whole year.

Regarding ducks, nearly the same remarks as to raising, apply to them as to geese. Without a good pond or a running stream, it is vain to attempt to raise them. The Muscovy or Musk Duck is a good variety to cross with the common varieties.

There remains to be mentioned but one other of the domesticated birds—the *Swan*.

> "Emblem of modest grace,
> Of unaffected dignity and ease,
> Of pure and elegant simplicity."

The swan is pre-eminently the bird of poetry and of poets, who have penned countless hexameters in portraying its superb and indefinable beauty—its arched neck, its snowy wings, its downy breast, and the silent majesty of its movements on the still bosom of its favorite silvery lake.

The swan is a perfectly untameable bird; and yet we have what are called "tame swans," "domestic swans." This contradiction will be explained when we come to understand what our "tame swans" really are. If we were to catch a hyena, and cripple him so that he could not run away, we might then, perhaps, call him a "tame hyena." Our "tame swans," by a refinement of civilization, are *crippled* swans. It is not generally known, we believe, that to prevent these beautiful birds from leaving the locality assigned to them by their owners, they are subjected to the cruel operation of having a portion of their wings amputated! Mr. Browne, as if conscious of the superior intellect of these almost divine birds, recommends that "the operation be performed before they are taken to their intended home, in order that they may have the fewest possible disagreeable reminiscences connected with the spot where they are to spend their lives." "The amputation of the part of the wing which corresponds to our hand," he adds, "is quite sufficient to

prevent the flight of the short-winged species, so far as migration is concerned—disfigures them less than the *closer pruning*, and still leaves them the means of escape from a dog—allows them now and then, in their gambols, to *fancy* they are free, and to enjoy a sort of half-run, half-fly, from the lawn into the water."

This is treating the barbarism very coolly, it must be confessed. If those who delight so much to see the beautiful swan floating on limpid pools or artificial lakes were to be informed that all their delight was at the expense of the barbarous mutilation of the poor birds' wings, they would enjoy much less the spectacle.

Mr. Browne further adds: "But the loss of the last wing will not be enough to prevent their flight. It is recommended that the female be pinioned at the wrist, the male at the elbow, trusting to their mutual attachment to keep the less maimed bird from deserting her mate. But however it be done, let it be set about in a workmanlike manner; no chopping, no hacking, no hewing, no butchering. *Many cygnets are annually killed by the clumsy way in which their wing is lopped off.* They suffer from the shock to their nervous system. A skilful operator will feel for the joint, divide the skin, and turn the bone neatly out of the socket."*

Such is the savage custom of taming swans for gentlemen's pools and artificial lakes. Such things practised in Turkey or China would be called barbarities. It is bad enough to confine birds in cages, but to amputate their beautiful wings, *secundum artem*, is only refined cruelty.

The average weight of the swan is from 25 to 28 lbs. The flesh, when properly cooked, is said to be delicious—unsurpassed.

We close this article, with some observations on the profits of poultry raising, and the egg and poultry trade.

It is the opinion of Mr. Samuel Allen, who has contributed a very valuable appendix to Mr. Browne's work, and who is well known, in the agricultural world, as "an experienced and successful breeder of stock, as well as of the choicer varieties of domestic fowls," that most of the accounts published in agricultural journals, regarding the profits of poultry raising, are entirely unreliable; that they "will not bear the close scrutiny of those who have attempted the business on a large scale."

"Counting chickens before they are hatched," has ever been the besetting sin of poultry raisers. The following, from the *London Agricultural Gazette*, is a specimen: The writer tells us that "hens may be made to sit four times in the season. Each time they sit they are to hatch two broods, that is, eight broods of three weeks each per annum, by the withdrawal of the first

* Browne's American Poultry Yard, pages 247, 248.

brood of chickens, and replacing them with fresh eggs. The kidnapped chickens are to be reared by an artificial mother. Now, if the hen hatches only ten chickens for each set of eggs, which is considered a low estimate, this gives 80 chickens per annum for each hen, or 400 in the course of the year, for the expense of maintaining five hens, and, it is presumed, one cock, (though the poor fellow is not mentioned,) or more than one chicken per day ! ! !"

"Alas for such extravagance!" exclaims Mr. Allen. "Hens are made of flesh, blood, bones, and feathers, not of wood, hot water, India rubber, sheep skins, nor iron. Accounts like the above, which we often see going the rounds in agricultural papers, it is almost needless to say, deserve only to be treated with ridicule and disrespect."*

Mr. Allen admits "that there is profit attending poultry raising, when undertaken on a moderate scale; but when the business is attempted with a large number of barn-yard fowls, obtained at a heavy cost, including the purchase of food, accommodations, &c., I am free to venture the opinion," says he, "that speculations of the kind will prove fruitless in the end."

The raising of geese simply for their feathers, which bear a high price, has been found to be very profitable. Mr. Allen cites a case of a farmer recently in the western part of Pennsylvania, who went into the business extensively, and raised 2,000 geese in one year, from which he obtained a ton of feathers, valued at $1,000. This supposes one pound of feathers to the goose, at 50 cents per lb. Whether geese will average a pound of feathers each is questionable. The farmer allowed them to attain their full size, and then he killed them, stripped them of all their feathers, and threw away their carcasses.†

It is much to be regretted that the United States census for 1850 furnishes nothing regarding the poultry and egg trade of this country. That of 1840 included statistics on the subject; and the published returns gave $12,176,170 as the value of the poultry in all the states and territories. Since the census of 1840, the amount has probably doubled.

Nothing but scattering statistics on the subject can be obtained. We shall give all that we can collect.

The amount of poultry sold in the city of Boston during the year 1848, was $1,000,000.‡ As more attention has been paid to the raising of poultry during the last ten years than ever before, we may safely conclude from this, and from the great increase of the population of the Union, that the poultry trade has at least doubled; which would make it amount, for the year

* Appendix to Mr. Browne's Work, p. 301.
† Allen's Appendix, page 305.
‡ Proceedings of the State Board of Agriculture for 1852.

1850, to more than $24,000,000. By reference to the agricultural statistics of 1840, it will be seen that the value of poultry for the State of New-York was $2,373,029, which was more than the value of all its sheep and neat cattle, and nearly five times the value of all its horses and mules. The total value of poultry in the Union, according to the census of 1840, was as follows:

Maine,	$ 123,171	Kentucky,	$ 536,439
New-Hampshire,	97,642	Tennessee,	581,531
Vermont,	176,437	Louisiana,	273,314
Massachusetts,	540,295	Mississippi,	369,481
Rhode Island,	61,492	Alabama,	829,220
Connecticut,	176,659	Missouri,	230,283
New-York,	2,373,029	Indiana,	393,228
New-Jersey,	412,487	Illinois,	335,968
Pennsylvania,	1,033,172	Michigan,	82,730
Delaware,	47,465	Arkansas,	93,549
Maryland,	219,159	Florida,	61,007
Virginia	752,467	Wisconsin,	16,167
North Carolina,	544,125	Iowa,	17,101
South Carolina,	590,594	District of Columbia,	3,092
Georgia,	473,158		
Ohio,	734,931	Total,	$12,176,170

It has been too much the custom of every body to regard the poultry and egg trade as a very small matter; but any one who will carefully look into it, will soon perceive that it is, in fact, much more important than many other branches of trade that are regularly reported. We are, therefore, the more surprised that no notice was taken of it in the census of 1850.

In regard to the egg trade, the statistics would be truly wonderful, if they could be fully determined. It is estimated, by the Committee of Supervision of the New-England Convention of Domestic Fowl Breeders, held in Boston on the 15th of November, 1849, that the eggs consumed, in Boston alone, in 1848, amounted to $1,000,000. The population of Boston is 136,000. There are 63 cities in the United States, each having a population of more than 10,000 inhabitants. The total population of these 63 cities, which may be called the urban population of the United States, is 2,805,167. This population, taking Boston as the standard, would consume eggs annually to the amount of over $20,000,000. Taking the urban population from the entire population of the United States, 23,191,074, we have for the village and rural population 20,386,907. Supposing that these consumed only as many as the small urban population, we must suppose that the value of all the eggs consumed in the United States amounts to more than $40,000,000 annually.

The value of the eggs brought to New-York city by way of the Hudson river alone, in 1851, was $220,945. In 1848, there was one dealer alone in Philadelphia, who sent to the New-

York market, daily, nearly 100 barrels of eggs. In 1851–52, Cincinnati exported 9,160. There were received at Buffalo from the lake, in 1851, 12,818 barrels. The egg trade of New-Orleans, probably, amounts to more than half a million of dollars annually. The eggs imported into the United States from Canada, in 1851, amounted to $38,008. The value of the eggs received at Buffalo from the lake, in 1852, was $76,860.

So very imperfect are the statistics of the United States regarding this branch of trade, that no certain results can be obtained. In England, France, and other countries of Europe, the trade is very extensive. Mr. M'Culloch says that England pays annually for eggs brought from Ireland alone, from £200,000 to £300,000—from about $1,000,000 to $1,500,000. England imported from Belgium, in 1840, 96,000,000 of eggs, the duty on which, at one penny per dozen, amounted to £34,000.

England also imports them from France in large quantities. Many vessels are employed in the egg trade between England and most of the ports between Calais and Cherbourg. The amount imported from France, in 1844, was 67,487,920. The value of the entire egg trade of Ireland is estimated at more than $2,000,000 annually.

The exportation of eggs from this country is very considerable. Vast quantities are constantly exported from New-York and Boston, chiefly for San Francisco. A single ship left Boston on the 15th of August with 1,049 boxes for San Francisco; and the reports of exportations show that ships leaving New-York and Boston take out, almost every week, quantities varying from 10 to 20 barrels each.

Art. VII.—THE STATE OF IOWA.*

HISTORY, LAWS, EDUCATION, RELIGION, SOIL AND PRODUCTIONS—POPULATION AND GENERAL STATISTICS.

THIS state takes its name from that of one of its beautiful rivers which runs entirely across its present boundaries, and empties itself into the Mississippi. With Michigan and Wisconsin, it was originally comprehended under the general name of Territory of Michigan. In 1836 the State of Michigan was admitted into the Union, and the territory of Wisconsin was organized, embracing within its limits the present State of Iowa. The population had so greatly increased, that on the 4th of July, 1838, Wisconsin was divided by the line of the Mississippi, and the territory of Iowa was organized. In 1846, so great had been the increase of this latter territory, she applied

* For the other states see previous volumes.

and was admitted into the Union under the name of "The State of Iowa," making the 28th sovereignty in the confederacy of States. Before proceeding any further, we think a brief history of the extinguishment of the Indian title, and the removal of the Indians from this state, may be of general interest. The whole territory north of the State of Missouri was in indisputable possession of the Indians as late as the year 1832. The Sauks or Sacs and Foxes, who were the principal tribes, had ceded to the United States, in 1830, the last of their lands east of the Mississippi River. They were still unwilling to leave their ceded territory in compliance with the treaty which led to the "Black Hawk War," resulting, after several fierce skirmishes, in the total defeat of the Indians at the battle of the Broadaxe, in Wisconsin, on the 2d August, 1832. To secure the future tranquillity of the invaded frontier, and as an indemnity for the expenses of the war, a strip of country on the west of the Mississippi, extending nearly 300 miles north from Missouri, and about fifty miles in width, commonly known as the "Black Hawk Purchase," was ceded to the United States. Further purchases were made in 1836 and in 1838. In 1842, an immense tract, containing some fifteen millions of acres, was purchased of the Sacs and Foxes, for the sum of one million of dollars. This tract now contains some of the finest counties in the State of Iowa, though a large part of it was occupied by the Indians up to 1845. The Pottawattamies, who inhabited the south-west corner of the state, and the Winnebagoes, who occupied the "Neutral Ground," a strip of country on the northern borders, were peaceably removed, and the Indian title became extinct within the established limits of the State of Iowa in 1848. These limits, as defined by the Constitution, are as follows:—"Beginning in the main channel of the Mississippi River, at a point due east of the middle of the mouth of the main channel of the Desmoines River; thence up the middle of the main channel of the said Desmoines River, to a point on said river where the northern boundary line of the State of Missouri, as established by the Constitution of that state, adopted June 12th, 1820, crosses the said middle of the main channel of the said Desmoines River; thence westwardly, along the said northern boundary line of the State of Missouri, as established at the time aforesaid, until an extension of said line intersects the middle of the main channel of the Missouri River; thence up the middle of the main channel of the said Missouri River, to a point opposite the middle of the main channel of the Big Sioux River, according to Nicolett's map; thence up the main channel of the said Big Sioux River, according to said map, until it is intersected by the parallel of forty-three degrees and thirty minutes north latitude; thence east, along said parallel

of forty-three degrees thirty minutes, until said parallel intersects the middle of the main channel of the Mississippi River; thence down the middle of the main channel of said Mississippi River, to the place of beginning."

Permission to settle in this state was first granted to the white man on the 1st June, 1833. The rapidity with which the torrent of immigration poured into this "Western Paradise," as the earlier travellers in this locality designated it, may be inferred from the fact, that the official returns of the territorial census taken in May, 1838, gave her a population of 22,859; and that of the United States census, taken in 1840, 43,112; showing an average annual increase of over 44 per cent. Since that time, she has bounded forward with an extraordinary rapidity, numbering, by the census returns taken June, 1850, within her borders, a population of 192,214; exhibiting an average annual increase for the decennial period ending in 1850, of over 44 per cent.!!!

If it is a fact—and we are of the opinion a close observation will carry conviction to every unprejudiced mind, and establish it as such—that those who migrate, natives of the United States especially, are among the most energetic, enterprising and ambitious portions of the community. This state is destined to attain a high rank in the confederacy; for we find by reference to the nativities of her inhabitants, she is very fully represented by all sections of the Union:—The Northwestern States, Ohio, Indiana and Illinois, contributing to her population 57,885; the Western States, Kentucky and Tennessee, 13,268; the Southern Atlantic and Gulf States, 13,268; the Middle States, New-York, New-Jersey, Pennsylvania and Delaware, 24,516; and the New-England States, 5,535; being about 60 per cent. of her population.

Fertility of the Soil.—Dr. Owen, in his Geological Survey of Wisconsin, Iowa and Minnesota, says:—"The carboniferous rocks of Iowa occupy a region of country which, taken as a whole, is one of the most fertile in the United States. No country can present to the farmer greater facilities for subduing, in a short time, wild land. Its native prairies are fields, almost ready made to his hands. Its rich, black soil, scarcely less productive than that of the Cedar Valley, returns him reward for his labor a hundred-fold. The only drawback to its productiveness is, that on some of the higher grounds, the soil, partaking of the mixed character common to drift soils, is occasionally gravelly; and that here and there, where the upper members of the coal measures prevail, it becomes somewhat too siliceous. The rural beauty of this portion of Iowa can hardly be surpassed. Undulating prairies, interspersed with open

groves of timber, and watered with pebbly or rocky-bedded streams, pure and transparent; hills of moderate height and gentle slope; here and there, especially towards the heads of the streams, small lakes, as clear as the rivers, some skirted with timber, some with banks formed by the greensward of the open prairie;—these are the ordinary features of the pastoral landscape.

"For centuries, the successive natural crops of years, untouched by the scythe, and but very partially kept down by the pasturage of buffalo and other herbivorous animals, have accumulated again matter on the surface-soil to such an extent, that a long succession, even of exhausting crops, will not materially impoverish the land. The prairie-sod, matted and deep-rooted, usually requires from six to eight yoke of oxen effectually to break it up. The future farms of Iowa, large, level, and unbroken by stump or other obstructions, will afford an excellent field for the introduction of mowing and reaping machines, and other improved implements calculated to save the labor of the husbandman; and which, in new countries reclaimed from the forest, can scarcely be employed until the first generation shall have passed away."

EDUCATION.—The first law for the establishment of a system of common schools was adopted by the Territorial Legislature of Iowa, on the 16th January, 1840. Immediately subsequent to her admission into the Union, this law was revised and perpetuated by the supplemental act of February 25, 1847. In this form it continued in force until superseded by the act of January 15, 1849. By a joint resolution of the General Assembly, approved February 5, 1851, the last-mentioned law, with some slight amendments, was made a part of the "Code of Iowa."

The school fund of this state, derived from its school lands, is large and ample. The appropriation of the public lands by Congress for this purpose is very liberal. Besides the amount of land set apart specifically for educational purposes, both primary and university—being every sixteenth section—a certain per centage also of the moneys derived from the sale of all public lands by the General Government within the state, is to be appropriated to the school fund. In addition to this, by the "Code of Iowa," it is made incumbent on the county judge of each county, at the time of levying the tax for county purposes, to levy a tax for the support of schools within the county, of not less than one half mill, nor more than one mill and a half on the dollar; that is, not less than one-twentieth, nor more than three-twentieths of one per cent.—on the assessed value of all the real and personal property within the county, receivable only in cash.

As indicative of the high estimation placed upon the value of learning in this state, we may remark that the "Superintendent of Public Instruction" is the highest salaried officer within her limits.

By the "Code of Iowa," there is to be established at Iowa City, an institution to be called the "State University of Iowa," with such branches as, in the opinion of the General Assembly, the public convenience may hereafter require. The public buildings at Iowa City, together with the ten acres of land on which the same are situated, are granted for the use of said university. The two townships of land granted by act of Congress of July 20, 1840, for the support of a university, is donated to the said State University, to be and constitute a permanent fund, the interest of which shall be applied exclusively to the support of said university and its branches.

The condition of the grant is, that the university shall, as soon as the revenue amounts to $2000 per annum, commence and continue the instruction, free of charge, of fifty students annually, in the theory and practice of teaching, said students to be selected, under certain regulations, from the different parts of the state.

From a report made to the Legislature by the Honorable Thomas H. Benton, Jun., "Superintendent of Public Instruction," Dec. 6, 1852, it appears tnat the agent appointed by the state had completed the selection of the university lands granted by Congress, amounting to upwards of 46,000 acres; that by a resolution of the Board of Trustees no sale was to be made for less than $5 per acre; that in the fall of 1851, 685 acres had been sold at a fraction over $5 per acre, and that on the 28th February, 1852, the trustees had raised the minimum price to $10 per acre.

The code also divides the state into three districts, in each of which there shall be established a normal school for the education of common school teachers and others. Each school shall educate eight teachers, free of charge of tuition, who shall teach, for the term of three years, common schools within the state. Said schools shall be established at Andrew, Oskaloosa, and Mount Pleasant. The Oskaloosa normal school commenced its first session on the 13th September, 1852, with forty-seven pupils.

From an abstract of the Annual Report of the School Fund Commissioners, ending October 31, 1852, it appears there were —organized districts, 1,560; persons between five and twenty-one years, 85,060; district schools, 1,266,; pupils in schools, 33,033; male teachers, 806; female teachers, 525; compensation of male teachers per month, $13,208 41; female teachers, $4,453 58; number of days schools have been taught, 78,666; num-

ber of volumes in library, 703; average number of pupils who have attended schools, 20,520; aggregate amount paid teachers, viz., from teachers' fund, $25,913 72; voluntary subscriptions, $28,739 55; number of district school-houses, 74 brick, 14 stone, 245 frame, and 471 log—804; cost of district school-houses, $99,708 70; amounts raised in the districts during the year by tax, $23,246 81, of which $18,821 69 was for the erection of school-houses, and the balance for contingent expenses.

The interest of the school fund apportioned to all the counties of the state was $20,600 12.

The total sales of school lands reported by the School Fund Commissioners up to December, 1852, amounted to 286,111 acres, realizing $455,966 36.

It is proper to state, in this connection, that in addition to the grants of every 16th section and special grants for university purposes, there was an additional grant by Congress to this state, for common school purposes, of 500,000 acres, and that the agents, appointed on the part of the state to select the lands, had accomplished their mission, and reported to the "Superintendent of Public Instruction."

Churches and Church Property, &c., &c.—The number of churches of the various denominations is 193, having accommodation for 43,083 persons, and with a total value of church property to the amount of $177,425. They are divided as follows:—Methodists 71, with accommodation for 14,529 persons, and with a church property of $43,475; Presbyterian 38, with accommodation for 7,855 persons, and with a church property of $28,350; Baptist 20, with accommodation for 3,957 persons, and with a church property of $19,550; Roman Catholic 18, with accommodation for 4,490 persons, and with a church property of $28,250; Congregationalists 14, with accommodation for 4,725 persons, and with a church property of $21,550; Christian 10, with accommodation for 2,785 persons, and a church property of 6,300; Episcopalian 5, with accommodation for 730 persons, and a church property of $5,000; Friends 5, with accommodation for 1,550 persons, and a church property of $6,300; Lutheran 4, with accommodation for 1,000 persons, and a church property of $6,950; Union 4, with accommodation for 562 persons, and a church property of $7,100; Moravians, 2, with accommodation for 500 persons, and with a church property of $2,200; German Reformed 1, with accommodation for 200 persons, and a church property of $800; Universalists 1, with accommodation for 200 persons, and a church property of $1,600.

From the returns of the United States census of 1850, we find that the number of acres in farms, of improved land in this

State, is 824,682, and the number of unimproved 1,911,382; the cash value of farms is $16,657,567.

The value of farming implements and machinery is $1,172,869. The number of horses, 38,536; asses and mules, 754; milch cows, 45,704; working oxen, 21,892; other cattle, 69,025; sheep, 149,960; swine, 323,247; and the total value of live stock is $3,689,275. The annual value of animals slaughtered, taking the year ending June, 1850, is $821,164.

The number of bushels of wheat is 1,530,581; of rye, 19,916; of Indian corn, 8,656,799; of oats, 1,524,345; of tobacco, 6,041 lbs.; of wool, 373,898lbs; of peas and beans, 4,775 bushels; of Irish potatoes, 276,120 bushels; of sweet potatoes, 6,243 bushels; of barley, 25,093 bushels; of buckwheat, 52,516 bushels; the value of orchard products, $8,434. Number of gallons of wine, 420; value of products of market gardens, $8,848; number of pounds of butter, 2,171,188; of cheese, 209,840; tons of hay, 89,055; bushels of cloverseed, 342½; other grass seeds, bushels of, 2,090; hops, lbs., 8,242; flax, lbs., 62,660; bushels of flaxseed, 1,959½; pounds of silk cocoons 246; pounds of maple sugar, 78,407; gallons of molasses, 3,162; beeswax and honey, 321,711 lbs.; value of home-made manufactures, $221,292.

With the view of presenting at a glance the increase in the value of property, we have referred to the assessment rolls of this state, and we find that the total value of all kinds of property in the year 1852, was $38,427,376; and that of the year 1849, was $18,496,151; showing an increase in the value of property for three years, of about twenty millions of dollars, or an increase of over 107 per cent.!!!

Deaf, Dumb, Blind, Insane and Idiotic.—The number by the United States census of 1850, of deaf and dumb, is 128 males, and 117 females, making a total of 245, but this does not include 17 deaf whites, which are mentioned in the returns; of these there were 23 born in the state; 196 born out of the state, but in the United States, and 26 foreign born.

By the "Code of Iowa" it is enacted that, upon satisfactory evidence being given to the county court of any county in the state that there is a deaf, dumb, or blind person, between the ages of ten and thirty years, residing in said county, it shall be the duty of the court to certify that fact, together with the name and age of the unfortunate, and the names of his parents or guardian, to the Superintendent of Public Instruction, who, upon said certificate, is authorized to certify the matter to the Auditor of State, who shall draw his warrant upon the Treasurer of the State for one hundred dollars each year, in favor of the parent or guardian of said person, to be applied to the education of the unfortunate person. Under this proviso the superintendent had notified the legislature, at its session in December, 1852, of

having authorized warrants to the amount of $3,400 during the past year.

Births, Marriages, Deaths, Dwellings and Families.—The number born during the year ending June 1st, 1850, 6,099, which of course only includes those who were surviving on this day, and therefore are but approximate; the number of marriages, 1,824; the number died during the year, 2,044; (these statistics are very questionable;) the number of dwellings, 32,962; and the number of families, 33,517.

Finances, &c.—By the report of the Treasurer of the State to the legislature at the December session, 1852, it appears there had been received into the treasury from the 2d day of December, 1850, to the 31st day of October, 1852, the sum of $139,681 69, and that the disbursements of the same period had amounted to $131,631.

The Auditor of the State, at the same session, represented that the funded debt of the state amounted to $81,795, of which amount $26,795 75 are payable at the option of the state; and $55,000 on July 1st, 1857. The estimated expenditures for the two years to come, amount to $103,918 90, and the estimated resources for the same period, to $149,119 47.

Art. VIII.—INSURANCE TAX UPON THE GULF COMMERCE OF THE SOUTHWEST.

In the last report of the Secretary of the Treasury to Congress we find a statement, made from official records, of the losses sustained by wrecks on the capes of Florida, during the past eight years. The statement is as follows:

WRECKS ON FLORIDA REEFS FROM 1844 TO DECEMBER 15, 1852.

Year.	Number of vessels.	Value of vessels and cargoes.	SALVAGE. Per ct.	SALVAGE. Amount.	EXPENSES. Per ct.	EXPENSES. Amount	Salvage and expenses.	Loss per ct.
1845	29	$725,000	12.7	$92,694	10.5	$76,370	$169,064	23.3
1846	26	731,000	9 4	69,600	4.9	36,100	105,700	14.3
1847	37	1,624,000	6.7	109,000	6.4	104,500	213,500	13.1
1848	41	1,282,000	11.1	125,800	9.2	74,260	200,060	21.3
1849	46	1,305,000	11.2	127,810	8.5	91,350	219,160	18.7
1850	30	922,000	13.2	122,831	8.3	77,169	200,000	21.5
1851	35	941,500	12.1	75,852	8.4	89,148	165,000	20.5
1852	22	663,800	8.2	80,112	8.2	81,988	163,100	16.4
Total	265	$8,194,300	10	$803,699	8	$630,855	$1,434,584	18.6
Loss per annum							179,323	

The *foreign* vessels are not included in the above, except in the three first years, when there were 17 British, 84 American,

and six of other nations. Foreign vessels included, since 1847, the number of wrecks is altogether about 290 vessels. The *expenses* are distinct from salvage, being charges against vessels, &c., in port, as harbor fees, wharfage, storage, auction commissions, exchange, commissions for advances, support of crews, repairs, refitting, &c.

This statement affords very interesting and important information to all the citizens of the Southwest, and particularly to the planting and commercial interest. The actual loss is far less than is generally imagined, and forms a very trifling per cent. indeed of the total value of the immense commerce which passes the capes of Florida, and of the aggregate shipping engaged in this trade. Allowing that the twenty-five foreign vessels not included in the statement should average with the others, we should have a total loss for the eight years of $1,566,230, equal to $195,779 per annum. Now if we knew the total value of the domestic produce and return merchandise, and of the shipping employed in this trade which have passed the capes during the past eight years, we could form an accurate estimate of the per cent. of loss, and of the rate of insurance which would be ample to cover it.

We know, however, that in 1852, about 2,000,000 bales of cotton were shipped from the Gulf ports. Now the other domestic produce sent coastwise and outwards, and the return merchandise to the same ports, together with the total value of all the vessels which passed the capes during the year, would, we may safely assume, equal the value of the cotton, making an aggregate in round numbers of say $200,000,000. Yet take the entire average loss for the eight years, which is much above that of 1851 or 1852, viz., $195,779, and it amounts to only $\frac{978}{10,000}$ per cent. of this value, *or less than one-tenth of one per cent.* At one-half of one per cent., which may be assumed as the ordinary *extra* insurance, compared with Atlantic ports, which is demanded to cover the risk of these Florida reefs, we have the sum of $1,000,000. From this deduct the actual loss, $195,779, and we have the snug sum of $805,000 paid yearly to the insurance companies over and above their losses—or 450 per cent. over and above the actual risk.

It is not surprising that our marine insurance companies make dividends of from 15 to 30 per cent.

It is very plain that the facts do not sustain or warrant the present rate of insurance. It is an interesting fact shown by the statement, that the value of vessels and cargoes wrecked on the reefs during the past three years is 33⅓ per cent. less than the average for the preceding five years, and this notwithstanding the greater extent and value of our Gulf commerce.

As the present rates of insurance appear to be an exorbitan

tax upon the commerce of our Gulf ports, and operate to that extent to lessen the value of our staples, and retard the growth of our commercial marts, we would suggest that the attention of the legislatures of Louisiana and Alabama should be directed to this subject. It would seem to us an excellent plan that these states themselves should become the insurers, exacting only that small premium which a series of years may have demonstrated to be sufficient to cover the risk, together with expenses, &c.

Our present rates appear to be determined rather by the losses of a former period, before the successful establishment of a well-organized fleet of wrecking vessels at Key West, than by reference to the losses of the past eight years.

I question if the total loss and expenses of but $18\frac{5}{10}$ per cent. of the value of vessels and cargoes wrecked on the Florida reefs will not compare favorably with the per cent. of losses elsewhere, either upon the Atlantic or European coasts.

One point appears to be demonstrated—that a ship canal across the Isthmus of Florida, which may be practicable as low down as the Everglades, is demanded rather with reference to the insurance charges, and the saving of time which might thereby be effected, than with regard to the actual losses sustained upon the Florida reefs. These losses would not amount to more than the interest upon $2,500,000.

As it is known that in marine navigation the expense of freight is not determined by the length of the voyage, but is proportionably much cheaper for long than short voyages, it is evident that the present heavy insurance is the most formidable drawback upon the commerce of our Gulf ports; and as long as it remains as it is, we may expect that the gigantic efforts of the Atlantic cities to draw our trade from its legitimate channels will be unremitting and eminently successful.

Art. IX.—THE COTTON CROP TRADE OF 1852-3.

No. III.

We are indebted to the "New-York Shipping List" and to the "United States Economist" for the following figures:

COMPARATIVE STATEMENT OF GROWTH.

Crop of—	bales.	Crop of—	bales.	Crop of—	bales.
1852—3	3,262,882	1842—3	2,378,875	1832—3	1,070,438
1851—2	3,015,029	1841—2	1,683,574	1831—2	987,477
1850—1	2,355,257	1840—1	1,634,945	1830—1	1,038,848
1849-50	2,096,706	1839-40	2,177,835	1829-30	976,845
1848—9	2,728,596	1838—9	1,360,532	1828—9	857,744
1847—8	2,347,634	1837—8	1,801,497	1827—8	720,503
1846—7	1,778,651	1836—7	1,422,930	1826—7	937,281
1845—6	2,100,537	1835—6	1,360,725	1825—6	720,027
1844—5	2,394,503	1834—5	1,254,328	1824—5	569,244
1843—4	2,030,409	1833—4	1,205,394	1823—4	509,158

EXPORT TO FOREIGN PORTS, 1852-'53.

FROM	To Great Britain.	To France.	To North of Europe.	Other foreign ports.	TOTAL.
New-Orleans.....bales.	922,086	211,526	95,635	149,038	1,038,285
Mobile	237,292	87,824	8,447	12,367	345,930
Texas	5,617	6,342	4,387	—	16,346
Florida	43,708	5,565	5,124	—	54,397
Georgia	122,492	15,059	3,481	1,264	142,296
South Carolina	191,306	59,502	19,319	27,682	297,809
North Carolina	—	—	—	—	—
Virginia	—	—	—	—	—
Baltimore	175	—	471	—	646
Philadelphia	3,514	—	—	137	3,651
New-York	207,647	40,910	32,720	2,763	284,040
Boston	3,023	—	1,592	385	5,000
Grand total	1,736,860	426,728	171,176	193,636	2,528,400
Total last year	1,668,749	421,375	168,875	184,647	2,443,646
Increase	68,111	5,353	2,301	8,989	84,754

The total crop of the United States in 1852-53 was 3,262,882 bales, to which add a previous stock of 91,176, total 3,354,058 bales of supply. Of this amount, after deducting the foreign export and a stock on hand in the country of 135,643 bales, and 20,861 bales burnt at New-Orleans, there remain 671,009 bales for home consumption, against 603,029 last year and 404,108 the year before, exclusive of the amount consumed by manufacturers south of Virginia. In this and Southern establishments, it is estimated that 20,000 bales are used in North Carolina, 10,000 in South Carolina, 20,000 in Georgia, 5,000 in Alabama, 5,000 in Tennessee, 30,000 on the Ohio—total, 90,000 bales, which, if added to the stock of interior towns, etc., giv a total crop of the United States last year of about 3,360,000.e

During the year there were received at New-York, 640 bales from Louisville, by way of the New-York and Erie Rail-road, and 7,000 at Baltimore, and 2,100 at Philadelphia, overland from the West, nearly if not quite all of which, it is believed, came from Tennessee.

UNITED STATES COTTON CROP.

Total Receipts of Cotton into the various Ports of the United States.

	1853.	1851, '52.	1850, '51.	1849, '50.	1848, '49.	1847, '48.	1846, '47.
New-Orleans	1,580,875	1,373,464	933,369	781,886	1,093,797	1,190,733	705,979
Mobile	545,029	549,449	451,748	350,952	518,706	436,336	723,462
Florida	179,476	188,499	181,204	181,344	200,186	153,776	127,852
Texas	85,796	64,052	45,820	31,263	38,827	39,742	8,317
Georgia	349,490	325,714	322,376	343,635	391,372	254,825	242,789
South Carolina	463,203	476,614	387,075	383,265	458,117	261,752	350,200
North Carolina	23,496	16,242	11,928	11,861	10,041	1,518	6,061
Virginia	25,783	20,995	20,737	11,500	17,550	8,951	13,991
Rail-roads	9,740	—	—	—	—	—	—
Total	3,262,882	3,015,029	2,355,257	2,096,706	2,728,596	2,347,634	1,778,651

Total Foreign Exports of Cotton from the United States.

	1853.	1851, '52.	1850, '51.	1849, '50.	1848, '49.	1847, '48.	1846, '47.
To Great Britain	1,737,860	1,668,749	1,418,265	1,206,771	1,537,901	1,324,265	830,909
" France	426,728	421,375	301,358	289,627	368,259	279,172	241,486
" Nor. of Europe	171,176	168,875	129,492	72,156	155,458	120,348	75,689
" Oth. for. ports	193,636	184,647	139,595	121,601	156,226	134,476	93,138
Total	2,528,400	2,443,646	1,988,710	1,590,155	2,227,844	1,858,261	1,241,222

Stock of Cotton on hand in the United States on the 31st of August.

	1853.	1852.	1851.	1850.	1849.	1848.	1847.
New-Orleans	10,522	2,758	15,390	10,612	15,480	37,401	24,493
Mobile	7,516	2,319	29,797	12,902	5,046	23,554	23,172
Florida	523	451	273	1,148	615	507	2,108
Texas	428	317	596	265	452	747	32
Savannah & Augusta	12,984	6,657	34,011	29,069	25,319	36,603	25,020
Charleston	15,126	11,146	10,953	30,698	23,806	14,084	29,655
North Carolina	—	—	—	—	—	—	—
Virginia	400	420	620	1,000	1000	444	448
New-York	67,675	45,710	35,410	60,720	67,720	41,967	83,259
Other Northern ports	20,469	14,250	3,850	15,456	15,456	16,130	26,650
Total	135,643	91,176	128,900	167,930	154,753	171,468	214,837
U. S. consumption	671,009	603,029	404,109	487,769	518,039	531,772	427,967

Art. X.— NEW-ORLEANS COMMERCE, MORTALITY, ETC.

THE commercial year which closed on the 1st September, gives occasion to the publication of many valuable statistical tables in New-Orleans, some of which we will transfer to our columns, as has been our habit for many years back.

We have also before us many interesting items gleaned from the papers of the city, relating to the late most disastrous, and altogether unexampled epidemic, which, in a few months, nearly decimated the city. From some of these we shall also extract at large in the progress of this paper.

Public health being again restored, and public confidence, in a few weeks will New-Orleans rise with new energies and with giant power, and the enterprise and spirit of her people will repair the terrible breach which has been made in her prosperity. God nerve them in the struggle, and we are assured that it will be a manly and a noble one, in which they will be impelled onward by the recollections of the generous sympathies bestowed upon them during last summer throughout the length and breadth of the land. Every New-Orleans heart beats warm in gratitude, and if absent from her midst in those times of deepest sorrow, must have realized in its fulness the couplet of the poet,

> "And thus I love thee better still,
> E'en in extremity of ill."

We extract from the *Bulletin:*

PROSPECTS OF THE CITY.—"With regard to most of these, we have abundant cause to congratulate our readers. With a steadily augmenting population, there has been an increased demand for dwelling-houses, and for the shops, stores, and warehouses required by the large portion of our citizens engaged in the various branches of trade. There has, consequently, been a considerable addition to the number of buildings in the city, and the amount of taxable property, which has increased the resources of the city government, and added to its means for extending and improving the pavements of our principal thoroughfares, repairing and adding to the public wharves, increasing our city police, and carrying out whatever other measures may be necessary for the general interests of the community. The

Directors of the New-Orleans and Jackson Rail-road, and the New-Orleans, Opelousas, and Great Western Rail-road, the two great lines designed to open a direct rail-road communication with the Northwest on the one hand, and Southwestern Louisiana and Texas on the other, have been actively engaged in the prosecution of their important duties, and have imparted additional confidence to the anticipations we expressed last year with regard to the beneficial influence of these means of extending our commercial resources. The organic law of the State Constitutional Convention, to which we referred in our last review, has been ratified by the people at the polls, and, in accordance with its provisions, laws have been enacted by the legislature, designed to extend efficient aid to our system of internal improvements, and both encourage the introduction of foreign capital and promote its circulation, by means which cannot fail to increase our commercial prosperity."

PUBLIC HEALTH.—"A thorough and complete sanitary system for any populous city, but more particularly for a Southern city, requires not only an efficient health police, but also an abundant supply of water and subterranean or covered sewerage, by which the entire surface of the town may be effectually drained without exposing any noxious matter to the action of the sun. With the Mississippi, during a large portion of the year, flowing at a level above that of our highest streets, there can surely be no difficulty in attaining the former object; and the apparent difficulties with regard to the latter sensibly diminish, when we reflect that while in other cities, where subterranean sewerage has been successfully adopted, it is necessary to sink the sewerage several feet beneath the pavement, both to bring them below the level of cellars and basements, and protect them from the frost, here, where we have neither cellars nor frosts, it is only necessary that they should be covered from the action of the sun. Probably a plan could be devised for laying them of clay pipes, under the side-walks, with openings to drain the gutters. The latter would then answer their present purpose of carrying off floods from the heavy rains, while at other times they would be drained so nearly dry that the city scavengers could readily remove all accumulations of offensive matter, and we should be saved the spectacle of laborers employed by the city in throwing from the gutters into the carriage-way, quantities of polluted mud and water, to evolve, in the hot street, under the burning rays of the sun, the greatest possible quantity of noxious vapors. We have said that this subject should receive the earnest attention of our mercantile classes. In this, at least, they should not content themselves with passive citizenship. Here, if anywhere, 'Commerce' should be 'King;' for to commerce the city is almost exclusively indebted for its wealth, its population, and its power. The wealth and population of every other large city in the United States are nearly as much created by the manufacturer as by the merchant. The city of New-York, for example, which, at the first glance, appears, above all others, indebted to the foreign and domestic trade for its municipal importance, has an aggregate capital invested in manufactures of upwards of $34,000,000, employs in manufacturing pursuits nearly 84,000 hands, and returns from this capital and labor upwards of $105,000,000. Such, at least, is the report in the U. S. Census of 1850; and when we add their families to the number of these operatives, it will be seen that, without including the large portion of the community who are supported by supplying their wants, the manufacturing population of New-York exceeds the amount set down in the same census for the entire population of this city."

MANUFACTURES.—"This case is but an illustration of a fact, proven by the history of every important town, whether inland or on the seaboard, that, while commerce brings wealth in its train, a numerous population can only be aggregated by manufacturing industry. New-Orleans, therefore, in de-

pending, as it has done hitherto, on the profits of commerce alone, owes little or nothing to that which is generally the chief source of popular increase, and hence her advance in numbers has not been in proportion to her increase in wealth. Manufactures, however, not only add largely to the numbers in a community, but both directly and incidentally promote trade, and increase the profits of mercantile classes. If, then, without this important aid, New-Orleans has grown up within a few years to her present palmy state of numbers and wealth, how much more gratifying would have been the result, had she been aided also by the stalwart arm of manufacturing industry! And why has she not thus been aided? The answer is readily found in the greater expenses of living here than in Northern cities, from increased rents and dearer goods, which render it necessary that a laboring man's wages should be higher than at the North. Hence, every successful attempt to cheapen labor, by cheapening food and the other necessaries of life, whether domestic or foreign, promotes the introduction of manufacturing capital, and the increase of manufacturing numbers and wealth. Having reason to believe that this will be effected by even the partial completion of our rail-roads now in progress, we may anticipate, at no distant day, that manufacturing industry will become here, as in the chief Northern and Western towns, an important agent in the increase of our general trade, population, and wealth, provided our city can be made a safe residence for the unacclimated, and not by its sickliness repel operatives from abroad. Hitherto, however, it is almost exclusively Commerce that has built up our city. It is commerce that has extended our wharves for miles along the Levee; commerce that has built up the low lands for nearly a mile from the river; commerce that has converted the swamps and sugar-fields of suburb St. Mary into the most densely-built district of the city; and it is commerce that has paved our streets, erected our court-houses, market-houses, warehouses, churches, hotels, and private dwelling-houses, and in a few years enhanced more than a hundred-fold every foot of land within our corporate limits. Such being the facts, it would be just as well as politic to make commerce as free as possible; to aid it, by decreased port charges, in stretching forth its arms to the remotest regions, and bringing thence the tribute of the industry of many nations to swell our wealth; and, above all, to enable it to offer such inducements to the farmer and the merchant of the Northwest, that they will still find it their interest to make New-Orleans their principal market. Here, again, we are met by the subject of the city hygiene; for we cannot expect the unacclimated citizen of the North to send his produce where he dare not himself venture, or order his supplies where it would be fatal for him to select them in person."

The cotton trade of New-Orleans, 1852–'53, we extract from the "New-Orleans Prices Current."

Table showing the highest point in each month, for Low Middling to Middling Cotton.

	Highest.	Lowest.		Highest.	Lowest.
September	9¼ a 10	8½ a 9½	March	8½ a 9¼	8 a 8⅝
October	9¼ a 9½	9 a 9½	April	9¼ a 10½	8¾ a 9¾
November	9½ a 9¾	8¾ a 9¾	May	9¼ a 10¼	8¾ a 9¾
December	8¾ a 9	7¾ a 8¾	June	9¼ a 10	9 a10
January	8¾ a 9¼	8 a 8¾	July	9¾ a 10½	9¼ a10
February	8¼ a 9	7¾ a 8¾	August	9¾ a 10¾	9¾ a10¾

Table showing the product of Low Middling to Good Middling Cotton, taking the average of each entire year for eight years, with the receipts at New-Orleans, and the total crop of the United States.

	Total crop. Bales.	Receipts at N. O. Bales.	Average Price. Cents.
1845—6	2,100,537	1,041,393	6⅞
1846—7	1,778,651	707,324	10
1847—8	2,347,634	1,188,733	6¼
1848—9	2,728,596	1,100,636	6¼
1849-50	2,096,706	797,387	11
1850-51	2,355,257	995,036	8
1851-52	3,015,029	1,429,183,	8
1852-53...est'd	3,220,000	1,664,864	9

"The total receipts of this port, since 1st September last, from all sources, are 1,664,864 bales. This amount includes 60,875 bales received from Mobile and Florida, and from Texas by sea; and this being deducted, our receipts proper, including 23,995 bales, received direct from Montgomery, &c., are shown to be 1,603,989 bales, being an increase of 209,765 bales over the receipts of last year, which were the largest ever known up to that time. The total exports since 1st September are 1,644,981 bales, of which 922,086 bales were shipped to Great Britain, 21,526 to France, 244,673 to the North and South of Europe, and 266,696 to United States ports. On a comparison of the exports with those of last year, there would appear to be an increase of 150,846 bales to Great Britain, 15,272 to France, 35,514 to the North and South of Europe, and of 10,250 bales to United States ports. The total receipts at all the Atlantic and Gulf ports, up to the latest dates received—as shown by our general cotton table—are 3,211,172 bales; but the actual crop, when made up to the 1st September, by the New-York Shipping and Commercial List, with the difference of stocks at Augusta and Hamburg, receipts overland, &c., will probably not be far from 3,220,000 bales; an excess of 205,000 bales over the crop of last year.

"Thus the largest cotton crop ever produced in the United States has been disposed of, and at a very favorable average of prices, though, besides the material increase in our crop, the lower grades of American cotton have had to contend with unusual imports into Great Britain from India, the quantity received from that source during the first six months of the present year being 266,603 bales, against 44,019 bales in the same period last year. According to the semi-annual circular of Messrs. Hollingshead, Tetly & Co., Liverpool, which we have been accustomed to take as authority, it would appear that the total supply of cotton in Great Britain, for the six months ended on the 30th June, 1853, was 2 182,250 bales, against 1,895,963 bales for same period last year; and that of this quantity 1,496,595 bales were American, against 1,470,662 last year. The quantity taken for consumption in the same time was 1,040,150 bales, against 1,031,763 bales last year, which shows a slight increase, though in the quantity of American taken there has been a falling off, the respective amounts being 825,412 bales in 1852, and 806,295 bales in 1853. The weekly average consumption in Great Britain, for the first six months of the current year, has been 40,005 bales of all kinds, against 39,683 bales for the same period last year; and the stock on hand in the United Kingdom, on the 1st July, 1853, was 986,300 bales, of which 609,100 bales were American. Last year, at the same time, the total stock was 717,200 bales, of which 553,500 bales were American. We have no data for the consumption of the Continent of Europe for the first six months of the current year; but it is probable that it has somewhat exceeded the ratio of 1852, when the consumption of Europe (other than Great Britain) was put down at 1,181,637 bales for the whole year, distributed as follows:—France, 476,660 bales; Russia, 141,959; Hamburg and Bremen, 127,535; Trieste, 126,314; Holland and Belgium, 145,678; Spain, 94,541; other countries, 68,950. The amount taken for consumption in the whole of Europe, (including Great Britain,) in 1852, is stated at 3,077,712 bales. Add the consumption of the United States in the same period—say 650,000 bales—and we have a grand total, in round numbers, of 3,728,000 bales as the apparent consumption of the year 1852. The supply for 1852 may be stated as follows:—

Stock in Great Britain	bales. 404,600	Crop of the United States	bales. 3,015,000
" on the continent	93,713	Imports from Brazil	144,197
" in United States ports	128,000	" " West Indies	12,580
		" " Egypt	189,935
		" " East Indies	221,413
	716,313		3,583,125
			716,313
Total			bales. 4,299,438

"The ratio of consumption for 1852, as we have already shown, has been somewhat exceeded in Great Britain for the first six months of the current year; and the consumption of the United States for 1853 may be safely put down at 700,000 bales, though not the whole of this quantity will have been taken out of the receipts at the ports.

"We append a table which exhibits the import, delivery, stock, etc., in the whole of Great Britain, for the first six months of the current year, ended on the 30th June last, and a comparison with the same period in 1852.

		1853.		1852.	
Stock 1st January	bales.	657,520		404,600	
Import six months		1,524,730		1,401,363	
		2,182,250		1,895,963	
Export six months		155,800		147,000	
Consumption		1,040,150	1,195,950	1,031,763	1,178,763
Stock 30th June			986,300		717,200
Weekly average taken for consumption			40,005		39,683
Taken on speculation			400,890		372,410

"As to the quality of the last crop, the great bulk of it was of a low average; and we had occasion frequently through the season to remark upon the unusually wide difference in price between the lower and better grades, owing to the abundance of the former and the comparative scarcity of the latter. Clean, bright cottons, with good staple, have generally the advantage in demand, and it probably would be to the interest of the planters if more care were observed in the gathering of the crops.

"With respect to the growing crop, we have to remark that, up to this time, the accounts from the interior are, with some exceptions, favorable for a good yield, should the picking season prove propitious. True, the crop is more backward even than that of last year; and this will render it more liable to serious injury should an early frost ensue; besides retarding the receipts, which are likely to be still further impeded by causes growing out of the prevalence of the epidemic in our midst, as it is altogether probable that the proprietors of steamboats generally will find it difficult, if not impossible, to make their arrangements for entering on the cotton trade as promptly as heretofore. And, besides this, the presence of more or less fever at several of the prominent river towns, which are leading shipping points, is likely to deter planters from sending their crops in while their servants would be exposed to disease that might prove fatal. Thus far, it will be seen, the receipts of new crop show a large deficiency as compared with last year.

"The market prospects for the coming crop we conceive to be of a favorable character, for the consumption is likely to be adequate to the absorption of any probable extent of production. This would seem to be evident from the course of the past two years; for within that period we have seen two successive crops—the last the largest ever produced, and the two combined exceeding any two previous crops by the important amount of nearly a million and a quarter of bales—(the crops of 1851 and 1852, together, amount to about 6,240,000 bales.) We have seen these two large crops more readily disposed of than any previous ones, and at prices which not only present a satisfactory average throughout, but which show a gradual though steady im-

provement (with some fluctuations, from collateral causes) until the closing rates for the crop of 1852, are nearly 50 per cent. higher than the opening ones for that of 1851. We have already shown that the ratio of consumption in Great Britain, for the first six months of the current year, has exceeded somewhat the ratio of 1852; and should the political questions which now agitate Europe be amicably arranged, and the world remain at peace, such is the general prosperity of the great consuming countries, that a very ample crop is likely to meet a ready market, at satisfactory prices."

The following tables, which have explanatory captions, we have compiled from our records, under the impression that they would probably be found interesting to parties engaged in the cotton trade:—

SEASON.	Receipts at New-Orleans.	Average price per bale.	Total Value.	SEASON.	Receipts at New-Orleans.	Average price per bale.	Total Value.
1842-43	1,089,642	$27 00	$29,420,334	1848-49	1,142,382	$27 00	$30,844,314
1843-44	910,854	32 00	29,147,328	1849-50	837,723	50 00	41,886,150
1844-45	979,238	24 00	23,501,712	1850-51	995,036	49 00	48,756,764
1845-46	1,053,633	32 00	33,716,256	1851-52	1,429,183	34 00	48,592,222
1846-47	740,669	44 00	32,589,436	1852-53	1,664,864	41 00	68,259,424
1847-48	1,213,805	29 00	35,200,345				
Total ten years				bales	12,057,029		$421,914,185

It will be seen by the above table that the cotton alone, sold in this market within the past ten years, has yielded a gross product of $421,914,185.

Date of receipt of first bale.	Receipts of new crop to September 1.		Total receipts at New-Orleans.	Total crop of United States.
1842—July 25	1,734	1842—43	1,075,391	2,378,875
1843—August 17	292	1843— 4	850,342	2,030,409
1844—July 23	5,720	1844— 5	934,285	2,394,503
1845—July 30	6,846	1845— 6	1,041,393	2,100,537
1846—August 7	140	1846— 7	797,324	1,878,651
1847—August 9	1,089	1847— 8	1,188,733	2,347,634
1848—August 5	2,864	1848— 9	1,090,707	2,728,596
1849—August 7	477	1849—50	807,387	2,096,706
1850—August 11	67	1850—51	950,220	2,355,257
1851—July 25	3,155	1851—52	1,429,183	3,015,029
1851—August 2	5,077	1852—53	1,664,864	3,220,000
1852—August 9	74	—	—	—

THE SUGAR TRADE OF NEW-ORLEANS.

We avail ourselves of the valuable annual statement of Mr. P. A. Champomier for a portion of our data under this head. By that publication it appears that the total crop made in Louisiana in 1852, was 321,934 hhds.; thus exceeding the crop of last year by 85,387 hhds., and showing the largest crop ever produced in Louisiana, by an excess of about 74,000 hhds. over any previous one. This was the product of 1481 sugar-houses, of which 943 are now worked by steam power, and 538 by horse power, and the crop is classified as 275,671 hhds. brown sugar, made by the old process, and 46,263 hhds. refined, clarified, &c., including cistern bottoms, which last are computed at 5 per cent. on the product of brown sugar. The weight of the crop is computed at 368,129,000 pounds of all sorts. Thus, the crop of 1852 has been shown to have greatly exceeded the product of any previous year, and we think it proved larger than could reasonably have been expected, considering the damage to the "ratoons" from the remarkably severe frosts of the previous winter: but the season proved unusually propitious for the "plant cane," and besides this it was all harvested without being injured by frost; a circumstance which contributed to render the crop the best in quality, as well as the largest in quantity, that was ever produced in Louisiana. It met with a ready sale, also, at an average of prices but slightly under that of the previous year, and we do not remember ever to have noticed a season that has been characterized by so continued an activity of demand, and so little fluctuation in prices.

The first receipts of the *new crop* were two hogsheads on the 9th October, which were classed Fully Fair, and sold at 6 cents per pound; but the market could not be said to have fairly opened until the latter part of the month,

when the range was about 4½ to 5½ cents per pound for Fair to Prime quality. The following table, which exhibits the highest and lowest points in each month for *Fair* Sugar on the Levee, will indicate the general course of the market:

	Highest.	Lowest.		Highest.	Lowest.
September	5¼ a 6	5¼ a 5¾	March	4 a 4¼	3⅝ a 4⅛
October	5 a 5⅜	4⅛ a 5	April	3⅝ a 4⅛	3⅝ a 4⅛
November	4⅛ a 5	3⅝ a 4¼	May	3⅝ a 4⅛	3⅝ a 4⅛
December	3¾ a 4⅛	3⅝ a 4	June	3⅝ a 3⅞	3⅝ a 3⅝
January	4 a 4⅜	3⅝ a 4⅛	July	4 a 4⅛	3⅝ a 3⅞
February	4⅛ a 4⅛	4 a 4⅛	August	4 a 4⅛	4 a 4⅛

There were sales to some extent on plantation, in the middle and latter part of December, but in January the transactions were unusually large, both on Western account and on speculation, the range for crops being from 3¼ to 4½ cents per pound, according to quality. These large operations so reduced the supply in planters' hands that they were induced to ask an advance, and there were some sales of choice crops in February at 4¾ cents per pound.

The estimated stock on hand at the close of last season was 3,000 hhds.; and this amount added to crop of 321,934 hhds., would make a supply of 324,934 hhds. The distribution of this supply, as nearly as can be ascertained, has been as follows:—Shipments to places out of the state, as shown by our tables, and including the exports from Attakapas, 95,000 hhds.; consumption of the city and neighborhood, 20,000 hhds.; taken for refining, in city and state, including cistern bottoms, 15,000 hhds.; stock now on hand in the state, estimated 8,000 hhds., leaving as the quantity taken for the West 206,934 hhds., against 149,547 hhds. last year. The quantity shipped to Atlantic ports is 82,000 hhds., against 42,000 hhds. last year.

In addition to the supply furnished by our own state, there have been imported into this port since 1st September last, from Cuba 2,271 hhds., 27,087 boxes, Brazil 665 cases, 19,964 bags, Manilla 8,112 bags. As was the case last year, the whole of the imports from Brazil and Manilla, and a large portion of those from Cuba, were for a St. Louis refinery. The crop of Texas was about 12,000 hhds., and there were some 5,000 hhds. produced in Florida, about 1,500 hhds. of which came to this market.

With respect to the growing crop, all accounts concur in representing the prospects as being very favorable up to this time; and should the season prove as propitious for maturing, and as favorable for gathering in as the last was, and considering, at the same time, the increased cultivation, it would seem probable that the yield may be such as to afford opportunity for testing the capacity of the physical force now engaged in the production of sugar within the State of Louisiana. The liability to injury by frost, however, renders the crop a very uncertain one, and great fluctuations in the product will be shown by the annexed table, which runs through a period of *twenty-three* years.

Crop of 1852	hhds. 321,934	Crop of 1840	hhds. 87,000
" 1851	236,547	" 1839	115,000
" 1850	211,203	" 1838	70,000
" 1849	247,922	" 1837	65,000
" 1848	220,000	" 1836	70,000
" 1847	240,000	" 1835	30,000
" 1846	140,000	" 1834	100,000
" 1845	186,650	" 1833	75,000
" 1844	200,000	" 1832	70,000
" 1843	100,000	" 1829	48,000
" 1842	140,000	" 1828	88,000
" 1841	90,000		

Prices and Crop of Molasses.

	Highest.	Lowest.		Highest.	Lowest.
September	18 a 28	16 a 28	March	17 a 24	12 a 21
October	25 a 30	25 a 26	April	17 a 24½	12 a 20
November	25 a 26	23 a 23½	May	15 a 24	15 a 21
December	22½ a 23½	16 a 22	June	14 a 21	11 a 20½
January	20 a 24½	17 a 22	July	13 a 20½	11 a 19
February	21 a 25	20 a 24½	August	13 a 20	13 a 20

The quantity shipped to Atlantic ports, according to our tables, (which include the exports direct from Attakapas) is equal to about 3,700,000 gallons, against 2,700,000 gallons last year. This amount being deducted from the whole crop, as estimated by Mr. Champomier, there would be left for the consumption of the West and South, 22,000,000 gallons, against 15,000,600 gallons last year. Besides the crop of Louisiana, there have been some few hundred barrels received from Florida and Texas, and about 1,200,000 gallons from Cuba, mostly "Concentrated Molasses," imported on account of a St. Louis sugar refinery.

Exports of Cotton and Tobacco, in bales and hhds., from New-Orleans, for the year 1852-3.

To—			To—		
Liverpool	869,835	9,458	Gottenburg	7,392	414
London	50	6,082	Spain and Gibraltar	51,443	10,175
Glasgow and Greenock	39,767	—	Havana, Mexico, &c.	20,693	—
Cowes, Falmouth, &c.	12,434	610	Genoa, Trieste, &c.	76,902	1,966
Cork, Belfast, &c.	—	—	China	—	—
Havre	202,957	1,482	St. Petersburg, &c.	37,502	2,647
Bordeaux	2,317	169	New-York	73,043	7,231
Marseilles	5,098	1,257	Boston	151,580	1,331
Nantz, Cette and Rouen	1,154	—	Providence, R. I.	16,028	—
Amsterdam	1,375	800	Philadelphia	19,362	688
Rotterdam and Ghent	1,982	282	Baltimore	5,126	124
Bremen	14,621	15,053	Portsmouth	—	—
Antwerp, &c.	22,232	4,034	Other coastwise ports	357	147
Hamburg	10,531	125	Western States	1,200	—
Total				1,644,981	64,076

Exports of Sugar and Molasses, from New-Orleans, (up river excepted) 1852-3.

New-York	46,561	169	—	51,420
Philadelphia	11,170	273	—	6,376
Charleston, S. C.	3,823	407	—	10,621
Savannah	1,613	149	—	3,777
Providence and Bristol, R. I.	2,631	—	—	148
Boston	82	174	213	2,314
Baltimore	10,945	140	—	10,327
Norfolk, Richmond and Petersburg, Va.	3,629	172	—	4,760
Alexandria, D. C.	1,170	—	—	1,329
Mobile	9,540	175	—	24,153
Apalachicola and Pensacola	1,546	155	—	5,657
Other ports	10,22	2,398	—	993
Total	93,739	4,212	213	121,875

Exports of Provisions, Lead, &c., 1852-3, at New-Orleans.

ports.	Flour, bbls.	Pork, bbls.	Bacon, hhds.	Lard, kegs.	Beef, bbls.	Lead, pigs.	Whisky, bls.	Corn, sks.
New-York	49,004	6,280	11,660	206,775	12,657	107,371	10,508	225,244
Boston	35,155	76,486	7,381	204,857	14,306	77,518	1,316	119,887
Philadelphia	—	6,280	65	6,846	134	22,196	1,613	17,734
Baltimore	—	8,131	188	11,747	2,000	—	486	—
Oth. coastw. pts.	19,460	26,241	30,328	48,118	586	5,128	57,659	171,877
Great Britain	170,569	4,316	2,224	87,691	42,368	—	—	303,679
Cuba	1,296	2,449	1,229	145,438	3	—	—	14,064
Other for. pts.	69,784	7,983	394	12,524	600	40	60	15,632
Total	520,415	200,226	53,469	723,996	72,653	212,253	71,642	868,117

Prices of Flour at New-Orleans.

	Highest.	Lowest.
September	$3 95 a 4 37½	$3 90 a 4 25
October	4 05 a 4 30	3 95 a 4 25
November	4 65 a 4 80	4 20 a 4 37½
December	5 00 a 5 25	4 30 a 4 60
January	5 00 a 6 00	4 50 a 5 25
February	4 65 a 4 85	3 87½ a 4 37½
March	4 10 a 4 37½	3 80 a 4 25
April	3 90 a 4 20	3 85 a 4 00
May	4 37½ a 4 55	3 90 a 4 12½
June	4 60 a 4 80	4 00 a 4 30
July	6 00 a 8 00	4 65 a 4 90
August	6 75 a 7 87½	5 20 a 6 50

Prices of Corn in sacks at New-Orleans.

	Highest.	Lowest.
Sept.	cts. per bu. 58 a 63	52 a 58
October	58 a 62	55 a 58
November	65 a 70	50 a 58
December	55 a 60	43 a 47
January	55 a 60	42 a 54
February	42 a 54	36 a 48
March	35 a 47	34 a 43
April	44 a 50	34 a 45
May	48 a 55	42 a 50
June	48 a 58	45 a 52
July	66 a 75	50 a 60
August	66 a 75	58 a 65

VALUE OF PRODUCE OF THE INTERIOR.

A Table showing the receipts of the principal articles from the interior, during the year ending the 31st of August, 1853, with their estimated average and value.

ARTICLES.		Amount.	Average.	Value.
Apples	bbls.	48,328	$3 00	$144,984
Bacon, assorted	hhds. and casks.	50,347	70 00	3,524,290
Bacon, assorted	boxes.	4,009	30 00	120,270
Bacon hams	hhds. and tierces.	42,868	65 00	2,786,420
Bacon, in bulk	pounds.	134,300	00 7	9,401
Bagging	pieces.	64,144	13 00	833,872
Bale rope	coils.	121,553	8 00	972,424
Beans	bbls.	9,494	7 00	66,458
Butter	kegs and firkins.	44,444	6 00	266,664
Butter	bbls.	2,184	28 00	61,152
Beeswax	bbls.	194	50 00	9,700
Beef	bbls.	48,565	13 00	631,345
Beef	tierces.	30,226	18 50	559,181
Beef, dried	pounds.	16,900	00 8¾	1,606
Buffalo Robes	packs.	17	75 00	1,275
Cotton	bales.	1,664,864	41 00	68,259,424
Corn Meal	bbls.	1,788	3 00	5,364
Corn, in ear	bbls.	17,620	00 75	13,215
Corn, shelled	sacks.	1,225,031	1 30	1,592,540
Cheese	boxes.	39,497	4 00	157,988
Candles	boxes.	68,796	6 50	447,174
Cider	bbls.	36	3 00	108
Coal, Western	bbls.	700,000	00 50	350,000
Dried Apples and Peaches	bbls.	2,237	4 00	8,948
Feathers	bags.	2,042	40 00	81,680
Flaxseed	tierces.	1,279	8 00	10,232
Flour	bbls.	808,672	4 50	3,639,024
Furs	hhds., bundles and boxes.	730	—	300 000
Hemp	bales.	17,648	17 00	300,016
Hides		101,460	2 00	202,920
Hay	bales.	175,000	3 00	525,000
Iron, pig	tons.	121	40 00	4,840
Lard	bbls. and tierces.	118,243	26 00	3,074,318
Lard	kegs.	159,672	5 50	878,196
Leather	bundles.	6,309	30 00	189,270
Lime, Western	bbls.	33,838	1 25	42,297
Lead	pigs.	210,287	4 00	841,148
Lead, bar	kegs and boxes.	157	25 00	3 925
Lead, White	kegs.	725	4 00	2,900
Molasses, (estimated crop)	gallons.	25,700,000	00 20	5,140,000
Oats	bbls. and sacks.	446,956	1 00	446,956
Onions	bbls.	17,718	2 00	35,436
Oil, Linseed	bbls.	508	30 00	15,240
Oil, Castor	bbls.	4,742	38 00	180,196
Oil, Lard	bbls.	14,685	32 00	469,920
Potatoes	bbls.	204,327	2 00	408,654
Pork	tierces and bbls.	316,592	14 00	4,432,288
Pork	boxes.	2,074	30 00	62,220
Pork	hhds.	2,547	70 00	178,290
Pork, in bulk	pounds.	12,985,810	00 6½	844,077
Porter and Ale	bbls.	1,140	10 00	11,400
Packing Yarn	reels.	2,811	7 00	19,677
Skins, Deer	packs.	425	30 00	12,750
Skins, Bear	packs.	29	15 00	435
Shot	kegs.	2,233	30 00	66,990
Soap	boxes.	6,911	3 00	20,733
Staves	M.	6,000	40 00	240,000
Sugar, (estimated crop)	hhds.	321,931	48 00	15,452,688
Spanish Moss	bales.	3,702	10 00	37,020
Tallow	bbls.	1,318	24 00	31,632
Tobacco, Leaf	hhds.	63,260	100 00	6,326,000
Tobacco, Strips	hhds.	10,050	130 00	1,306,500
Tobacco, Stems	hhds.	1,700	20 00	34,000
Tobacco, Chewing	kegs and boxes.	10,886	25 00	272,150
Twine	bundles and boxes.	4,544	8 00	36,352
Vinegar	bbls.	242	6 00	1,452
Whisky	bbls.	138,515	8 00	1,108 120
Window Glass	boxes.	13,408	3 00	40,224
Wheat	bbls. and sacks.	47,238	1 75	82,766
Other various articles, estimated at				6,000,000
Total value				$134,233,735
Total in 1851–'52				$108,051,708
Total in 1850–'51				$106,924,083
Total in 1849–'50				$96,897,573

Prices of Pork at New-Orleans.

		Mess—Highest.	Mess—Lowest.	Prime—Highest.	Prime—Lowest.
September	Per barrel	$23 00 a — —	21 00 a 21 50	18 25 a — —	18 00 a — —
October		20 00 a 21 00	16 00 a 16 75	16 00 a 16 50	15 75 a 16 50
November		19 00 a 19 50	16 00 a 16 50	17 00 a 17 50	15 75 a 16 25
December		18 50 a 19 50	17 00 a 17 50	17 00 a 17 50	16 00 a 16 25
January		17 25 a 18 00	16 25 a 17 25	16 00 a 16 50	15 00 a 15 50
February		16 00 a 16 50	15 00 a 15 75	14 50 a — —	13 50 a 14 00
March		15 25 a 15 75	14 00 a 14 75	13 00 a 14 00	12 00 a 12 75
April		15 75 a 16 00	13 75 a 14 00	12 75 a 13 50	11 00 a 12 00
May		15 75 a 16 00	14 00 a 14 75	12 50 a 13 00	12 00 a 12 50
June		15 00 a 15 50	14 00 a 15 25	12 00 a 12 50	11 00 a 12 00
July		14 50 a 15 25	14 50 a 15 25	12 00 a 12 50	11 75 a 12 50
August		14 25 a 15 00	14 25 a 14 75	12 00 a 12 50	12 00 a 12 50

Prices of Beef at New-Orleans.

		Mess—Highest.	Mess—Lowest.	Prime—Highest.	Prime—Lowest.
September	Per barrel	$15 00 a 16 00	14 50 a 15 00	13 00 a 13 50	13 00 a 13 50
October		14 50 a 16 00	14 00 a 15 00	13 00 a 13 50	12 50 a 13 00
November		14 00 a 14 50	13 00 a 14 00	12 50 a 13 00	11 50 a 12 50
December		12 50 a 14 00	12 00 a 13 50	11 00 a 12 00	9 50 a 10 50
January		13 00 a 14 00	13 00 a 13 50	10 00 a 11 50	9 50 a 10 50
February		13 50 a 14 50	13 00 a 14 00	11 00 a 12 00	11 00 a 12 00
March		13 00 a 14 00	13 00 a 14 00	11 00 a 12 00	11 00 a 12 00
April		13 00 a 14 00	12 50 a 13 50	11 50 a 12 00	11 00 a 11 50
May		13 00 a 14 00	12 50 a 13 50	11 50 a 12 00	11 00 a 11 50
June		14 00 a 14 50	13 00 a 14 00	11 00 a 11 50	11 00 a 11 50
July		15 00 a 15 50	14 00 a 14 50	11 00 a 11 50	11 00 a 11 50
August		15 00 a 15 50	15 00 a 15 50	11 00 a 11 50	11 00 a —

Receipts from the Lake by the New Basin.

		1852—1853.	1851—1852.
Cotton	bales	32,613	40,650
Sugar	hhds	323	870
Molasses	bbls	140	992
Lumber, &c.			
Yellow pine, cypress, &c.	feet	40,163,000	30,570,000
Shingles		3,449,000	1,844,000
Laths		2,587,000	5,090,000
Staves		1,870,000	150,000
Sash and doors	pairs	15,335	13,900
White oak knees		570	1,165
Cypress pickets		2,500	1,300
Cypress clapboards		62,500	165,000
Firewood, oak, ash and pitch pine	cords	34,412	28,206
Cedar logs		200	240
Buckets	doz	—	—
Naval Stores.			
Tar	bbls	7,595	1,872
Tar	kegs	13,274	12,066
Turpentine	bbls	1,526	2,481
Rosin	bbls	11,419	11,715
Bricks, Sand, &c.			
Brick, (Lake)		17,542,000	19,320,000
Sand	bbls	197,550	194,850
Shells	bbls	45,530	27,000
Miscellaneous.			
Charcoal	bbls	138,800	116,300
Hides		3,775	3,024
Moss	bales	110	30
Florida leaf tobacco	boxes	15	844
Horned cattle		1,280	123
Cotton gins		146	319
Domestics	bales	1,155	1,476

Exports of the growth, produce and manufacture of the United States, and foreign merchandise from the district of New-Orleans, for the year ending June 30, 1853 :—

AMERICAN PRODUCE.

American Vessels to Foreign Countries.

Third quarter, 1852	$4,175,452
Fourth " "	16,155,597
First quarter, 1853	11,862,932
Second " "	15,434,038—$47,628,019

Foreign Vessels to Foreign Countries.

Third quarter, 1852	$1,342,181
Fourth " "	3,973,692
First quarter, 1853	7,651,775
Second " "	7,173,059—$20,140,707

COASTWISE.

Third quarter, 1852	3,488,866
Fourth " "	7,358,099
First quarter, 1853	12,172,578
Second " "	$30,695,466— 7,675,984

FOREIGN PRODUCE.

American Vessels to Foreign Countries.

Third quarter, 1852	$72,594
Fourth " "	112,355
First quarter, 1853	149,173
Second " "	125,182— $459,304

Foreign Vessels to Foreign Countries.

Third quarter, 1852	$3,184—
Fourth " "	22,526
First quarter, 1853	30,520
Second " "	8,400— $64,630
Total	$523,934

The *Bulletin* concludes its comments with the following, which is able and instructive:—

"In summing up the results of the business, and maturely reflecting on the course of our various markets, and the increase as well as the decrease of our commerce, we see more to encourage than dishearten our mercantile friends. Compiling this review in the midst of the most disastrous epidemic that has ever desolated our afflicted city, and aware not only of its deplorable evils to humanity, but also of its serious effects upon our trade, its probable diversion of capital and business to other cities, its check to the recent advance in real estate, and its partial suspension of the tide of European immigration which was rapidly swelling the numbers of our laboring population, and preparing us to add the important element of manufacturing industry to our commercial resources, we still see through all these depressing circumstances much to encourage and cheer us. The course of the epidemic has been so thorough—it has so entirely acclimated our previously unacclimated population who have survived its attack—that from the mere want of material for it to work upon, there is no probability of its recurrence for many years. In the interim, if the owners of real estate and the mercantile community, as well as the various classes whose welfare is allied with theirs, be not blind to their own interest, they will effect a reform which will prevent a repetition of our present misfortunes under any circumstances. The establishment of an effective sanitary police, the adoption of whatever other means may be designated by experience and science as necessary to public health, the provision for an ample supply of water, to thoroughly cleanse the entire city at all seasons, the use of covered or subterranean sewerage, the effectual drainage of the adjacent swamp, the removal of its undergrowth, and the preservation as long as possible of the trees that now protect it with their foliage from the action of the sun, are among the measures pointed out as essential to our future immunity from disease. In all these, or, in fact, in any general system of urban improvement, whether in its relation to the streets, wharves, market-houses, and other public edifices, or to the embellishment of public grounds and avenues, the engineer, the architect and the artist should be governed in their various plans and designs by a just regard for the future. All merely temporary expedients should be discarded, and the city, rising up under their plastic hands, should everywhere present evidences of solidity, permanence, utility and taste. When New-Orleans furnishes such proofs of will and power to effect the great reform we have indicated, she will command confidence where she is now regarded with distrust—her population will increase, her merchants prosper, her real estate advance, and her rail-roads extend to the remotest limits. She will then become, as Nature clearly intended she should be, the true emporium of the South and West, and the very means designed to draw from her the Western business will add to her prosperity. At present it would seem as if Northern capital had determined, by the means of rail-roads, to utterly change the natural course of trade, and for all practical purposes obliterate the Mississippi and its tributaries from the map of the United States; but it must not be overlooked that while the superior speed of rail-roads renders them essential for travel and the carriage of many articles of merchandise, they cannot compete in point of economy with river navigation for the transportation of cheap and bulky products. New-Orleans is the only city that promises a full participation in the benefits of both, and when the rail-roads now in progress are completed, and river transportation is cheapened, as it inevitably will be, either by the improvement of the navigation, or by the employment of boats of greatly increased tonnage, built exclusively for freight, or by the use of barges of improved form, safety, and capacity, she will offer greater facilities to trade than any of her commercial rivals."

Art. XI.—AGRICULTURE.

PROSPECTS OF THE COTTON CROP—RAVAGES OF THE WORM IN ALL OF THE GROWING REGIONS—CALIFORNIA COTTON—COTTON RAISING IN THE EAST INDIES—CULTIVATION OF THE KALI, OR SODA PLANT, AT THE SOUTH.

DURING the past month, we have watched intently the reports of the Southern press in general, regarding the prospects of the present cotton crop, and we are compelled to say that the present indications are decidedly unfavorable. The *Mississippian* of the 9th of September says:

"From all parts of this state and Alabama, there is a general concurrence of accounts of the great calamity to the cotton crop, a few weeks ago so promising, from boll-worms and the unpropitious rainy seasons. A letter shown us from a gentleman who has just travelled over a large portion of Mississippi and Alabama, expresses the confident opinion that the crop cannot exceed 2,500,000 bales."

The boll-worm, according to all accounts, has been unusually destructive. The *Brandon Republican* says:

"We regret to state that within the last ten days this enemy of the cotton crop has made its appearance in many sections of the county, and is doing considerable injury by its ravages. Our exchanges likewise denote its appearance in other sections. It is impossible to calculate the extent of the injury at present; but it has certainly created considerable apprehension on the minds of some of our planters."

The same journal adds:

"In this county, so far as we have been able to ascertain, there will not be half a crop of cotton made. Almost every field has been visited by the boll-worm, and in many instances, even where the weed is large and apparently very thrifty, not more than two or three hundred pounds to the acre will be gathered.

"There are complaints in other directions, but it is doubtful whether any other section has suffered equal to this."

Many other published statements from Mississippi we might cite to the same effect.

From Alabama we have also some alarming accounts. The *Montgomery Journal* of the 9th of September says:

"We regret to learn that the worm has, within the last ten days, been making disastrous ravages on the cotton. Many crops which a month since promised a fair yield, are now destroyed by this pest of the staple. The only reasonable mode to get rid of this evil is, for all planters in the neighborhood to adopt the practice of lighting fires for an hour at dusk in the fly season. The efforts of a few scattered planters through a

large district, will effect nothing to eradicate the destroyer, if the mass of their neighbors make no efforts. Any one who has observed the effect of a single light-stand in destroying the fly during the period of its incubation, must be satisfied of its value if generally adopted. From present appearances, we are led to the opinion that the crop of this section will fall below that of last season, which was under a fair average."

The *Claiborne* (Alabama) *Southerner*, of the 10th September, speaks more encouragingly. It says:

"The prospects of the cotton crop have declined considerably in the last month. In some quarters boll-worms, and in others rust, have done much injury. The weed is unusually large, but not particularly well-bolled, and during the recent dry weather there has been much shedding. Nevertheless, the crop hereabouts will probably exceed that of last year, although we think it is generally estimated too high. Some twenty bales of the new crop have come in, and readily commanded ten cents, and in some cases more."

In Georgia, too, the prospects of the cotton crop are unfavorable. The heavy and long-continued rains have injured the crop very much. The *Thomasville* (Ga.) *Watchman* says:

"We hear considerable complaint, and much apprehension expressed among our farmers about the prospects and the apparent injury that will result to their cotton from the continued and heavy rains. In many places cotton is shedding not only its leaves, but the squares and young bolls are turning black and falling off. The rust, too, is doing considerable injury; and in a few instances the boll-worm has made its appearance. Colonel Young informed us the other day that the worm has made its appearance in his cotton, and was making sad havoc, not only in young, but grown bolls. Fears of a short crop in this section are beginning to be pretty generally entertained, and a few days more of wet weather, such as we have had for the past week or two, will fully confirm those fears.

"We learn that in Jefferson County, Florida, the caterpillar has made its appearance in great numbers, and is doing great damage to cotton."

A letter published in the *Charleston Mercury*, from a reliable source, states that in the vicinity of Beaufort, and on St. Helen Island, the genuine caterpillar has appeared among the Sea Island cotton, and is committing great ravages.

From Louisiana we hear constant complaints of the unfavorable prospects of the crops. The *Louisiana Courier* observes:

"Written and printed accounts from all parts of the cotton and tobacco regions announce that the weather has been very unfavorable, and, as a matter of course, the ensuing crops must be short. The tobacco is ruined by too great humidity, and the

cotton, besides having the bolls destroyed by the rains, is invaded by millions of legions of army-worms, lucifer-flies, and countless multitudes of other enemies, not named by naturalists, and unknown to them."

It endeavors to console the planters by calling to their recollection that short crops are a certain prelude to a rise of prices. The *St. Francisville Chronicle* speaks of the ravages of the worms among the cotton as follows:

"There is a worm on some of the plantations in our parish, which seems to be very destructive on cotton. It is said to be the grass-worm, and if so, it not only cuts grass, but totally destroys the cotton plant. On one plantation, they have eaten about seventy-five acres of cotton—bolls, forms, stocks and all—leaving the field of their depredation completely barren, and naked of verdure. It matters not by what nature these insects may be known; there is one thing certain, they prove more injurious to the cotton than the genuine army-worm; for they leave no hope to the planter, but destroy every prospect. Accounts from Catahoula parish state that the army-worm has commenced its depredations there. They will soon, therefore, be upon us, to complete the work of destruction which may be left by the worm already infesting the fields in our parish. It would seem that something invariably arises to blight the hopes of a bountiful harvest."

There is no end to the quotations which we might make regarding the unfavorable state of the present cotton crop, from almost every journal in the South and Southwest. In Western Louisiana the crop is better; and the accounts from Texas are decidedly favorable.

The sugar crop of Louisiana, from all present appearances, is likely to be good. The *West Baton Rouge Vis-à-Vis* states that the cane in the parishes of East and West Baton Rouge, Iberville, and Ascension, never was better at this time of year, September 1.

We have observed, of late, in some of the journals, notices of the experiments made upon the California cotton, so called. Mr. B. F. Whitner, Jun., of Madison County, Florida, has furnished the results of his experience in raising it, which show that it is exceedingly productive, much more so than the ordinary cotton, three quarters of an acre of it producing 950 lbs. of seed cotton, while an acre of the Petit Gulf yielded only 784 lbs. It averages a bale to the acre.

We are indebted to Mr. Baker, of Washington, for a note upon the cultivation of the kali plant at the South, from which we learn that during the administration of Mr. Madison, the late John Martin Baker, then United States Consul to the Balearic Islands in the Mediterranean, received by order of the minister

of state of the king of Sardinia, through Judge Mormellis, one of his majesty's judges, a request to forward to the President some sample seed of a product botanically called the "kali plant," or soda, which is cultivated to a great extent and advantage in that island. This was done by Mr. Baker, but what became of the seed is unknown. The plant appears to be of superior quality; and believing that from its nature it may be grown to much advantage in the southern parts of the United States—say in Louisiana or Florida—we give a description of its nature, properties, culture, &c.

The plant or seed is sown in the month of February; some sow in December, but that is too early, and is injurious to its growth.

For the cultivation of soda, grounds bordering on bodies of water producing a neutral salt are best adapted, because during its growth the soda imbibes from the water the alkaline part, and is saturated by it. Grounds near the sea-shore are next best fitted for the culture of this plant, because it obtains from the sea-water the alkaline part. The more distant the land is from salt water, the more the soda deteriorates in quality; and when planted and grown on grounds distant from the sea-shore or salt lakes, it loses the quality of a mineral alkali, and becomes a vegetable alkali, because the former contains a far larger quantity of alkaline salts than the latter. From ashes got from other plants most prolific of alkali, it would be difficult to obtain more than one-tenth of their weight of salt, while at least one-half of their weight of fixed salt can be obtained from ashes containing mineral alkali. For the manufacture of glass, the earthy part must be entirely separated from the alkali, in the former kind of ashes, while the latter are conveniently used for soap, *composts*, &c. Salt soil, which will produce no other plants, is best adapted for soda, especially if it be heavy loam or thick mud, and is to be preferred to all others.

The earth must be ploughed, and crossed with a harrow; then laid off in furrows—about six seeds to be laid in each hole—a few inches apart, to be covered over directly, but lightly, with ground; the same now and then to be loosened with a spade, as also after the soda has come up, and while the shoots are growing, in order to aid the growth and to extirpate the plants which come up around and about.

Soda is considered ready for burning when in bud, and before the flowers open is pulled up, scattered about, turned over, until it is equally dried by the heat of the sun.

In grounds where the soda grows, circular pits are made, in which it is put and burned to perfect fusion; for in fire judiciously managed it melts like fusible metal, and afterwards condenses and hardens.

The seed can at all times be obtained, and planted in the different sections of our southern country, where eventually, no doubt, it will become an article of great commercial importance to the general interest of the people of the United States.

Art. XII.—INTERNAL IMPROVEMENTS.

PACIFIC RAILROAD—ESTIMATES OF ITS COST AND REVENUES.

At the request of certain members of the *New-York Atlantic and Pacific Railroad Company*, chartered by the legislature of New-York, *Mr. Septimus Norris*, of Philadelphia, a practical railroad builder, and the constructor of the great St. Petersburg and Moscow Railroad in Russia, has recently laid before them his estimates of the probable cost of building and running the Pacific Railroad, including locomotives, cars, employees, and all the incidental contingencies of the road in full operation; together with his estimates of the clear profits over and above all regular and contingent expenses. These estimates, published in the New-York *Herald*, are looked up to as worthy of some notice, coming, as they do, from a gentleman of the largest experience in such matters. We will endeavor to give a brief outline of them, as reported in the *Herald*. According to these estimates of Mr. Norris, (fixing the length of the road at two thousand miles, which is the greatest length of any calculation yet made from the Mississippi River,) it will cost $816 15 to run a train through, carrying two hundred passengers, at twenty miles an hour, equivalent to the cost of the fifth part of a cent per mile per passenger. Assuming, on the other hand, an average of four hundred passengers per day, at sixty dollars each, for the through ticket, a clear profit over the expenses of the year (including the interest upon one hundred millions for the construction of the road) is made out of upwards of two millions of dollars. The revenues from freights, mails, gold, army and navy transportation, including men, horses, provisions, and munitions of war, would perhaps more than double the passenger receipts, including the way-traffic to and from the intermediate settlements, which would instantly spring up along the whole route, gladdening the waste places, and making the desert literally to blossom like the rose.

In regard to the estimate of 400 passengers per day, Mr. Norris bases it upon the fact, that the arrivals at San Francisco, from the actual records, amount now to an average of nearly one thousand per day; and these do not include the arrivals pouring in by land over the tedious route, on mules and horses, of the South Pass and Humboldt River. The San Francisco arrivals are mostly by the Panama and Nicaragua steamship

lines, the cost by either line ranging from two hundred to a thousand or fifteen hundred dollars, and consuming from twenty-five to thirty days, and sometimes more, in running the gauntlet of the deadly fevers of Central America. Now, cut down the time to San Francisco or San Diego to six days, the cost to sixty or eighty dollars, by a route over perhaps the very healthiest region on the face of the earth, and what is there to prevent the thousand per day now landing on the Pacific coast being swelled to two or even three thousand from April to November?

These facts warrant the conclusion, that at least 400 passengers would travel on a great Pacific railroad daily. The following is Mr. Norris' estimate of cost for running a passenger train from St. Louis to San Francisco—say 200 passengers—distance 2,000 miles—the train consisting of—

Four first class passenger cars	$8,000
One baggage car	1,500
One mail car	1,500
One twenty-two ton engine and tender	8,500

The train to run at the average rate of twenty miles per hour, including stoppages; performing the whole distance of 2,000 miles in 100 hours. Thirteen locomotives will be required for this duty, each locomotive running 153 84-100 miles, which will be considered a day's duty, with new sets of hands for each locomotive—the cars to be run through:

Wages of 13 engineers, 153 84-100 miles	$3 00	....	$39 90
" firemen	1 50	....	19 50
" conductors	2 00	....	26 00
" baggage masters	1 25	....	16 25
" brakemen	1 00	....	13 00
Wood for fuel and firing up, 63 7-10 cords	2 00	....	127 40
Water used, 60,000 gallons, 10 cents per M		....	6 00
Oil for engine and tender, 19 6-10 gallons	1 25	....	24 50
Oil and grease for cars		....	7 10
Repairs and renewal of engine and tender, 9 cents per mile		....	180 00
Repairs and refitting cars, 6 cents per mile		....	180 00
Hands at the depot and extra engines		....	75 60
Interest on first cost of 13 engines and tenders, and 6 cars, allowing six days for each trip		....	145 80
Total			$860 00

Now, $860 15 is the full cost of running a passenger train of two hundred passengers 2,000 miles, which includes every expense of motive power, with interest on cost of engines and cars. The sum of nine cents is nearly two cents per mile more than the average cost per mile for repairs of locomotives on the roads of the United States. The wages are high, and the wood $2 per cord.

Cost per passenger of 2,000 miles is $4 30, or a small fraction over two mills per mile for each passenger.

The following is Mr. Norris' estimate of the probable revenue of the road:

The revenue from the road would be as follows, allowing only four hundred passengers per day. This would give in a year 146,000 passengers, at sixty dollars, $8,760,000. Allow $50,000 per mile, of road equipped and ready for use—2,000 miles, at $50,000 per mile, $100,000,000:

Interest on cost of road, &c., at six per cent		$6,000,000 00
Cost of running 730 trains per year		627,909 50
Total		6,627,909 50
Add superintendence, office expenses		30,000 00
Total		6,657,909 50
Revenue for 400 passengers daily for one year		8,760,000 00
Deduct interest on $100,000,000	$6,000,000 00	
Deduct cost of trains and superintendence	657,909 50	
		6,657,909 50
Revenue over and above 6 per cent.		2,107,909 50

From this estimate, the road would pay 8 1-10 per cent. on a capital of $100,000,000, for passengers alone. In all cases large allowances have been made, and in no instance can the cost exceed the estimate. The allowance of only four hundred passengers daily between the two points—St. Louis and San Francisco—is a low estimate of travel. The revenue from freights, mails, and gold, would swell the receipts to a much larger amount.

Art. XIII.—MISCELLANEOUS NOTES.

Our friend M. W. Phillips, of Mississippi, expresses himself strongly in a letter upon the opinions ventured some months ago by Dr. Chickering, of Massachusetts, in an article which we published, that the South might not always find it easy to keep her slaves in subjection. He says, "Negroes on a place for as long as ten years, become perfectly under the control of the children of the master. They will peril life and limb in their service," etc. This we believe to be confirmed by all experience, and we so stated it at the time in a note to Dr. Chickering's paper. Unlike the crack-brained abolitionists, the South is always willing, as a matter of *curiosity*, at least, to hear what is alleged on the opposite side, especially when it is couched in moderate terms and with ability. On this account we have once or twice admitted a paper upon slavery, although not agreeing in every respect with our own views—views which have been expressed almost monthly by ourselves and others through fourteen volumes of the Review, and which leave nothing for abolitionism and free-soilism to rest a foot upon. We are almost ashamed to adduce another argument, so triumphant has been the demonstration. As a Mississippi editor humorously declared the other day of a certain somewhat dubious personage, whom not even editors hold in respect, "he has about as much liking for holy water as the Review for any of the crazy dogmas of the negro-school." We have ever counselled the South upon such a question—that *argument* evinces *cowardice*. When the rights of men are to be invaded, and their whole social organism dissolved, the course of manhood against the invader ceases to be words.

"——which thou wilt,
We try this battle hilt to hilt."

But we are taught to believe now that that hour will never come. We hope it —we even believe it.

If there could be one evidence stronger than all others of the hopelessness of our conversion over from the doctrines of a lifetime, it will be found in the fact of our having actually published the "negro disease" articles of Dr. Cartwright, and actually, too, approved them in the face of all the medical and the scientific men of the country. Think of that. Is it not like the case of the infidel in Don Juan, who, whilst the storm was breaking over his bark, not only admitted every article of the decalogue and the creed, but in his sudden fervor *regretted that there was nothing more to be believed?* Therefore, call theft, absconding, rascality in general, by any other names, and particularly by Greek names, and pill, plaster, and purgative, substitute pillory and penitentiary. Shall we believe anything else, than that Dr. Phillips is to be considered *sound* upon the slavery question?

Dr. Axson, of New-Orleans, has published in his excellent medical journal some valuable statistics of New-Orleans mortality for the last year, prefacing them with sound and philosophic views upon sanitary matters, epidemics, etc. The *Delta* says: "Dr. Axson is known in this community for the high tone of his professional character, for his devotion to truth, etc. He advances to his subject with the spirit of a philosopher." "With a well-stored mind," says the *Bulletin*, "assiduous application, and untiring industry, with zeal and love for his profession, united to a happy faculty of giving his opinions, Dr. Axson has attained a deservedly high rank in his profession."

We have seen it stated that with Dr. Barton, another gentleman of high medical and scientific attainments, Dr. Axson will perhaps form a commission to visit the whole of the yellow fever district of the South-west, and make investigations in regard to the disease, a task for which no two men in the country are better qualified.

From September 1st, 1852, to August 31st, inclusive, 1853.

Months, 1852.	Under ten years.	Colored.	Zymotic.	Nervous system.	Respiratory system.	Digestive system.	Circulatory system.	General sys.	Urinat. sys.	Locom. sys.	Integ. sys.	Old Age.	Non-Visible.	External causes.	Not specified	Specifics.
September....	246..	85..	361..	103..	59..	54..	8..	7..	1..	4..	2..	2..	1..	29..	58..	36
October.....	279..	106..	483..	132..	82..	64..	6..	8..	0..	3..	0.	13..	4..	33..	71..	52
November.....	271..	105..	502..	100..	87..	45..	9..	3..	3..	1..	3..	8..	2..	20..	59..	48
December....	268..	119..	294..	131..	147..	42..	13..	6..	2..	1..	1..	5..	0.	14..	58..	39
January, 1853..	214..	105..	167..	80..	114..	40..	9..	4..	1..	2..	0.	4..	5..	22..	32..	47
February.....	173..	124..	121..	80..	136..	24..	9..	6..	3..	3..	2.	10..	0..	14..	51..	29
March.....	161..	99..	80..	76..	285..	40..	7..	4..	1..	3..	0.	1.	0..	15..	39..	17
April.....	278..	151..	154..	112..	157..	58..	16..	9..	0..	4..	3..	3..	3..	24..	52..	36
May.....	349..	117..	191..	86..	102..	74..	22..	5..	0..	4.	0.	7.	0..	22..	43..	36
June.....	385..	134..	288..	131..	94..	74..	5.	10..	0..	1..	2..	5..	0..	31..	98..	47
July.....	277..	113..	1585..	117..	50..	74..	3..	3..	1..	0..	0..	4..	2..	29..	129..	35
August.....	537..	123..	5013..	209..	83..	81..	5..	6.	1..	2..	1.	11..	1..	27..	235..	32
Totals.....	3438..	1381..	9139..	1357..	1196..	670..	112..	71..	19..	28..	14..	73..	18..	290..	925..	454

We have received a letter from a gentleman of character in Alabama, in regard to our South-western Railroad system, and without expressing any opinion upon the subject, as he desires a reference to it, we make an extract or two:—

"*Fairfield, Pickens Co., Alabama, September 17th*, 1853.

"Sir—It is reported that Mr. Robb, the enterprising President of the New-Orleans and Tennessee road, has failed to negotiate the $6,000,000 of bonds, necessary to the completion of the road. If such is the case, would it not be better for New-Orleans to deflect a little from her intended route, and connect with us at Macon?

"An application will be made to the next Legislature, for an extension of our charter, through 'Jones' Valley,' to 'Gunter's Landing,' on the Tennessee River, to connect with the 'Knoxville' (in West Tennessee) Railroad, and the 'Stanton and Knoxville Railroad,' which will bring us in direct connection with Washington City," &c., &c.

We have to apologize for not having sooner published an article sent up by a gentleman of New-Orleans, upon the subject of sugar cultivation, in reply to the paper by Dr. Cartwright on the production of Cuban and Mexican cane-fields. It will have a place in our next number.

We are indebted to—

D. Appleton & Co. for a copy of vol. 2 of the works of John C. Calhoun, edited by Richard K. Cralle; embracing his speeches, delivered between the years 1811 and 1837, with brief introductory notes. Several other volumes are to follow, and we suppose that no respectable library in the Union will be without the masterly productions of the great, and altogether unequalled statesman.

J. H. Colton, for a new and complete statistical Gazetteer of the U. S., founded on federal and state returns, and the Seventh National Census, by R. H. Fisher, M.D., New-York—a very able and very full work. The editor makes large use of our Industrial Resources, an authority which, of course, we cannot object to.

W. H. Tenney, New-York, for a copy of the August and September Nos. of a new magazine, devoted to the Mining interest. It is one of the most valuable periodicals in this country.

Teubner & Co., London, a copy of the Progress of Russia in the West, North, and South, by David Urquhart. It will be read with great interest in view of the Russo-Turkish difficulties which are disturbing the world.

W. H. Trescot, of Charleston, S. C., a copy, in pamphlet form, of a letter addressed by him to the Hon. A. P. Butler, on the Diplomatic policy of the United States. Like everything from his pen, it is able and luminous, and altogether in accordance with the liberal views of the present government. Mr. Trescot would make our Diplomacy respected, by making adequate provision for the support of the minister, instead of beggaring him by the honor of the appointment. Having been Secretary of the Legation in England, he has personal knowledge of the matters of his letter. Our readers will remember Mr. Trescot's admirable work upon the Diplomatic policy of the Revolution, which was noticed in the Review, and which we trust he will follow up with others, upon the wars of 1815, and with Mexico.

Pudney & Russell, 79 John-street, New-York.—The Prospectus of a work soon to be published by them, entitled 'Historical Collections of Georgia,' by the Rev. George White, 700 pp., with fine steel and wood engravings, representing the principal scenery and incidents of the State, with Biographical Sketches of the most distinguished Men, from the first settlement of the Colony.

We are indebted to Little, Brown & Co., Boston, for volumes 1 and 2, duodecimo, of their series of the British Poets. These volumes are neatly bound, are printed on good paper, and in handsome, readable type. We shall notice the volumes as they appear, and express, in advance, our satisfaction that an American house has been found with sufficient enterprise to get up an edition of a work which must run through eighty or a hundred volumes, and which no gentleman would willingly be without in his library.

Vol. 1, Poetical Works of Oliver Goldsmith, edited, with a Life, by Rev. John Mitford.

Vol. 2, Poetical Works of John Gray, edited, with a Life, by Rev. John Mitford.

Considering the promises which are made by agents in the East Indies to their employers at home, one cannot but be surprised that old England has up to this time been so unsuccessful in destroying by her India Cottons our monopoly of the cotton world. After all, we are satisfied in this matter, that in the future as in the past, great cry and *little wool* is to be the result of the India movement.

The latest English papers speak of 1500 bales India cotton having been received, being the largest consignments yet forwarded under the experiments with New-Orleans seed. Mr. Flemming, of Manchester, discussed the question of transportation and labor. He asks, "Will the cost of carriage to the port of shipment be any impediment to the profitable export of cotton?"

"The cost of carriage in this district is very moderate. A bandy will carry 1,000lbs of cotton 20 miles for a rupee. (This is at the rate of about 2¼d. per ton per mile.)

Then comes another question; what are the rates of wages for labor in this district? Because labor is a very great ingredient in the production of cheap cotton:—

The rates of wages at Trichindore are as follow:—

	Anna.	Pice.		About.
A coolie man, from 18 to 50 years of age . .	1	2	..	1¾. pr day.
A great boy, from 12 to 17 years of age . .	0	8	..	1d. do
A little boy of 12 years of age . . .	0	6	..	¾d. do
The coolies and great boys, at noon, have jaggery (a coarse sugar, made from the Palmyra), and drink water—each person . . .	0	2		
The little boys have the same, each .	0	1		
An old man's wages are	0	6 or 8		
An old woman's wages are . . .	0	6 or 8		
And they also have jaggery . . .	0	2		

The above are the rates of wages from August to December; but from January to July the wages of a coolie are advanced to one anna 5 or 6 pice (or about 2¾d.) per day, as in those months the people go into distant parts to reap the rice, and are also engaged in drawing toddy from the palmyra trees.

You see that the wages of labor are not very important there as an impediment. Now comes another point; for it has been said that the natives will not pay attention to any cultivation to which they have not been accustomed; and I believe it is perfectly true that the natives of India are very much wedded to their own customs, and that it does require some little exertion, but it may be easily overcome, to induce them to pay attention to other modes of culture to which they have not been accustomed. I believe this applies not only to the natives of India, but to farmers in all parts of the world; but I believe even farmers may be convinced (and the natives of India are no exception), that if they can profitably pursue cultivation to which they have not been accustomed, they will easily do so. Are the natives willing to cultivate New-Orleans cotton, and to adopt a new mode of cultivation, if sure of a sale for the crops?

The price of the Cotton Plant, a weekly, published by Mr. Bayler, at Washington city, has been reduced from $2 to $1 per annum, in advance. The Cotton Plant is one of the cheapest and best journals in the country, and is now enlarged, and the advertisements omitted.

☞ We enclose bills to our subscribers the present month, and whether they receive them or not, we trust that all who are in arrears will see the importance of immediately remitting, either in cash, or in orders upon factors, payable when crops are sold.

Our subscribers are earnestly requested to be prompt, as in the disastrous summer which has just closed throughout the South-west, breaking up every description of business, the monthly receipts of the Review were not more than sufficient to pay office rent, leaving large arrearages to be immediately met. Although five months of the current year are passed, we have not sent out our bills, always due on the issue of the first number. In the troubles of the times, we did not care to be importunate.

There was a detention in the delivery of the September number to many subscribers, which they will excuse, in reflecting upon the disadvantages of keeping up an office in New-Orleans during a fierce epidemic. Should any subscriber, however, have failed to receive that number, or indeed any other number, he will only report to the office, and it will be promptly supplied. We are always anxious to correct any errors.

The *Industrial Resources* may yet be obtained, by order, from the office—3 vols., 1800 pages, handsome library binding, price $10, (postage free;) if cash, paid in advance.